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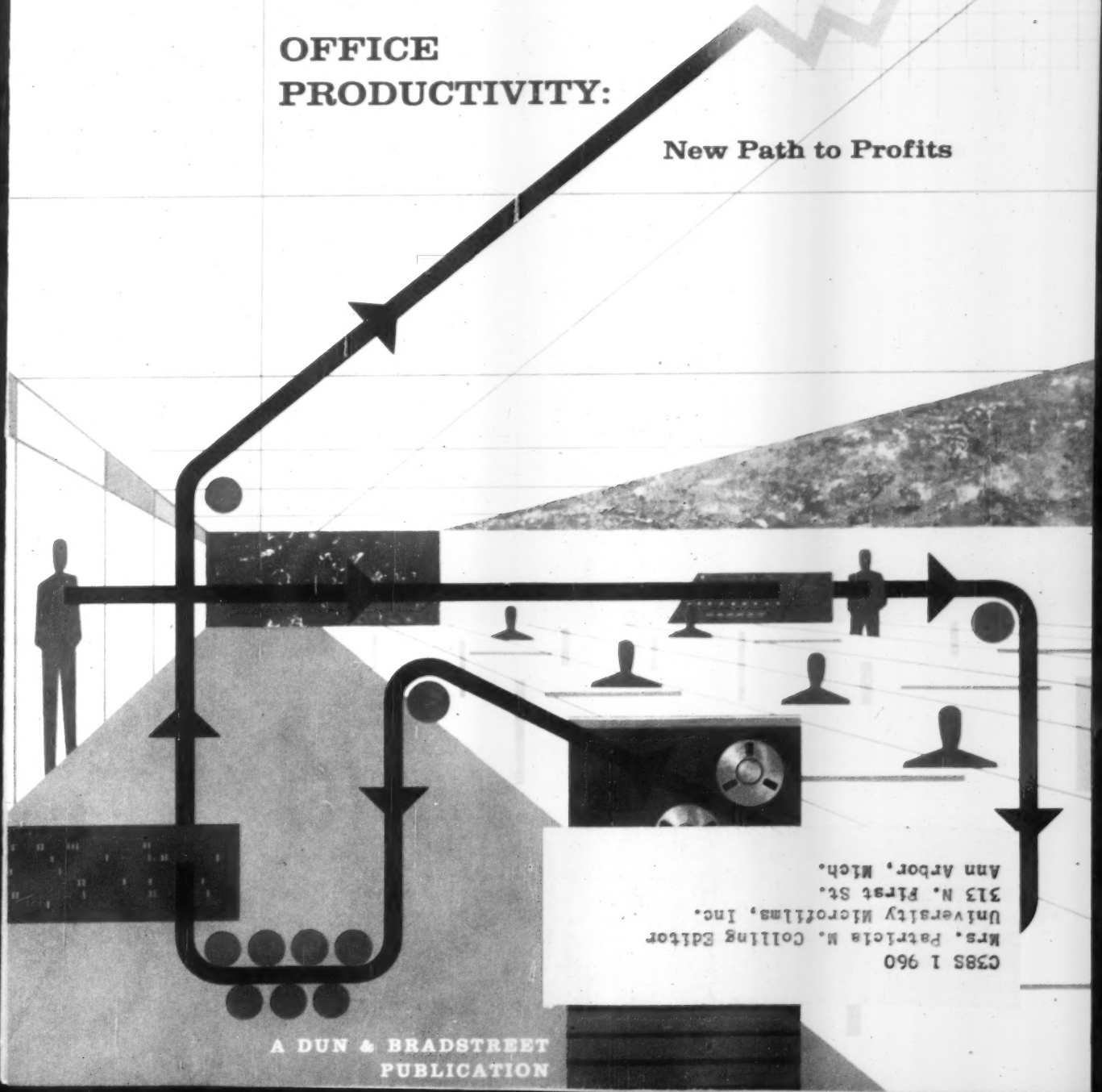

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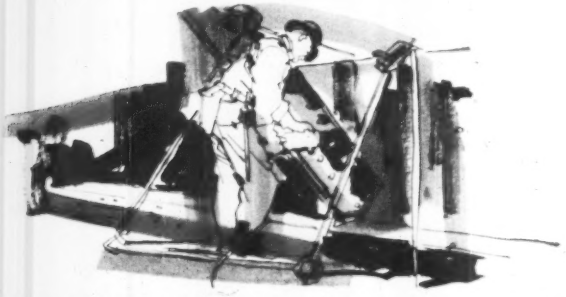

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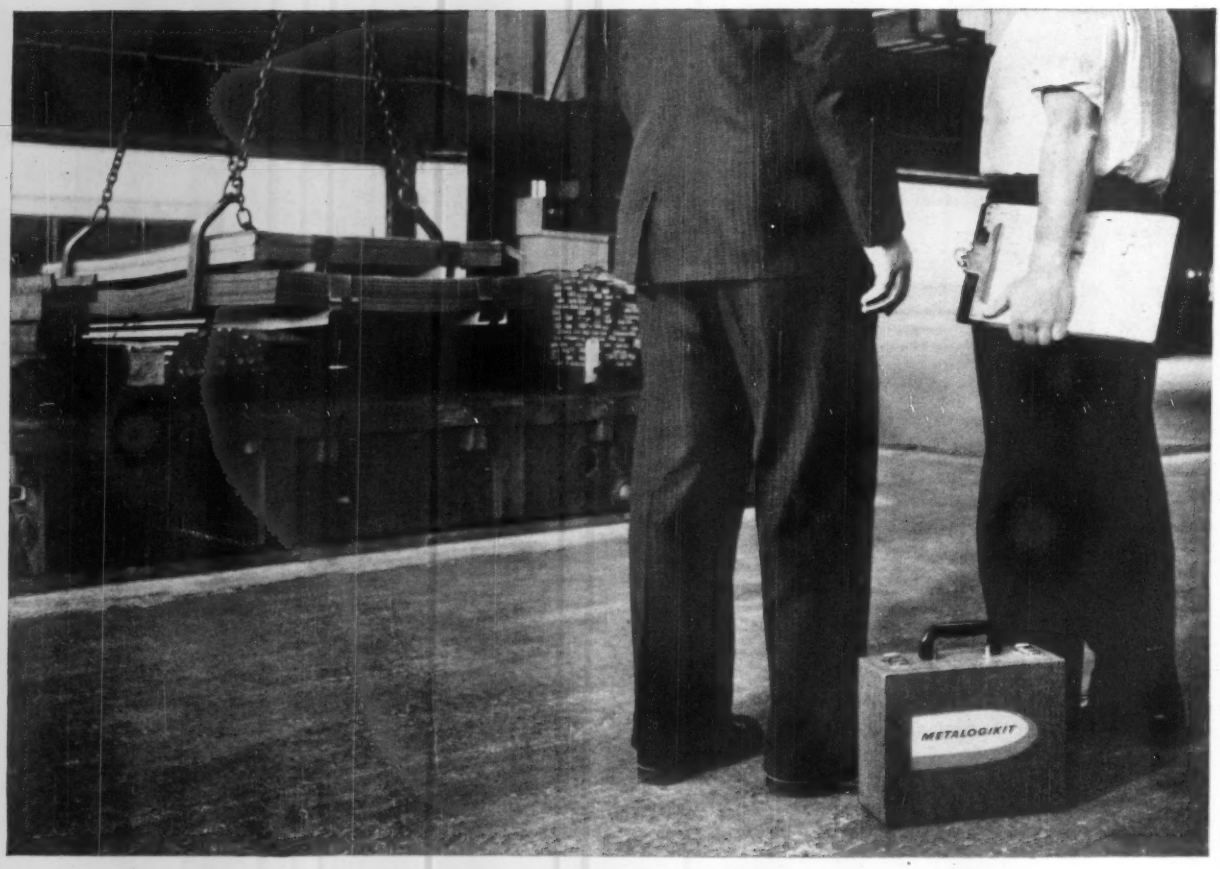

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The Trend of BUSINESS

PRODUCTION: *Climbing back toward all-time peak*
SALES: *Dollar volume heading for a banner year*
HOUSING: *New starts high, but hopes were higher*
FAILURES: *Lowest level for 1960 (page 13)*

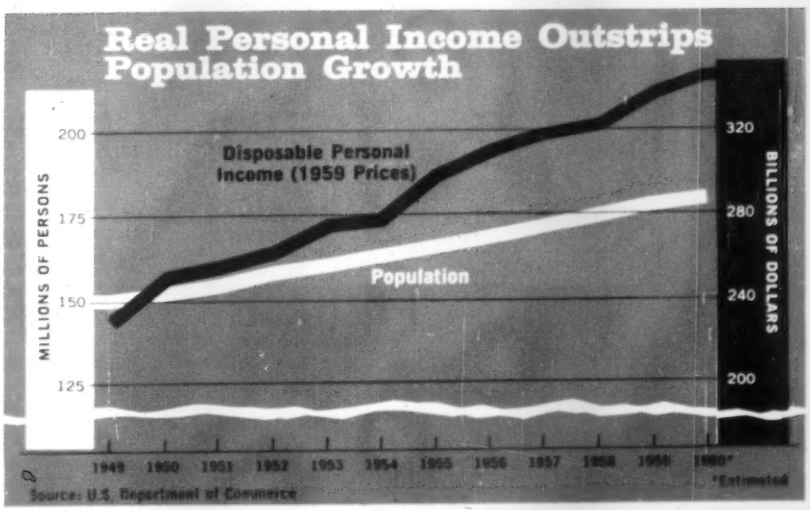
BUSINESS has been chugging along at a high level in recent months, and come fall is quite likely to hold steady or even advance a bit. Towards the end of the year, however, it may show signs of losing some steam. In the months immediately ahead, support will be drawn from continued high consumer spending and slight increases in business outlays for new plant and equipment. Yet before the year is out, these expenditures may not be as vigorous as previously expected. There is also little chance that the rate of inventory accumulation will show much of a change from the current levels.

Production will edge back up to its January peak this autumn.

Within the next month or so, industrial production, as measured by the Federal Reserve Board's Index, will hit the record 111 (1957=100) set last January, although it isn't probable that a new peak will be achieved this year.

The forthcoming slight rise and the subsequent leveling off of the index will primarily reflect activity in the steel, automotive, appliance, furniture, machinery, and mining industries. Output is likely to show modest but steady gains among manufacturers of apparel, food products, and many other soft goods.

Although preliminary estimates show that the lack of any significant upturn in new orders has held August steel operations somewhere between 55 and 60 per cent of rated capacity, a substantial rise is in prospect for September and October. In the main this will stem from increased steel buying by automotive producers, farm equipment makers, and warehouses. More moderate gains will occur in bookings from appliance manufacturers, oil concerns, and can makers. Still, it seems unlikely that steel mills will operate above 70 per cent of capacity any time during the last quarter.



SINCE 1949, *disposable personal income—in 1959 dollars—has risen at a much greater rate than population, except for recession 1954 and 1958.*

The export market will continue to be a source of strength for the steel industry, especially if today's exceedingly good business conditions in many countries abroad, particularly Western Europe, remain unchanged.

Auto output will bounce back to the high levels of early 1960 during the next few weeks, but will level off late in the year.

Dealer stocks of new passenger cars are still excessively high, and unless there is an extremely favorable reaction to the 1961 models, and a marked upsurge in sales, it looks as if that unhappy situation will continue. This will mean a leveling off, and possibly even a decline, in output once the showrooms are stocked with the new models. Nonetheless, 1960 will be the second best auto year in history, with output somewhere around 6.5 million units.

On the bright side, imports of foreign models have fallen below year-ago levels in recent months. Further inroads in the foreign-car market are likely when more of the new domestic compact models hit the showrooms.

The lack of any marked rise in production, and excess capacity in many industries, will whittle gains in new plant and equipment spending during the last quarter.

Although outlays will edge up somewhat in the months ahead, business men will not be spending as much on new plant and equipment as they had planned earlier this year. Even so, the year 1960 will wind up the second best on record in this area. Business men's hesitancy has been

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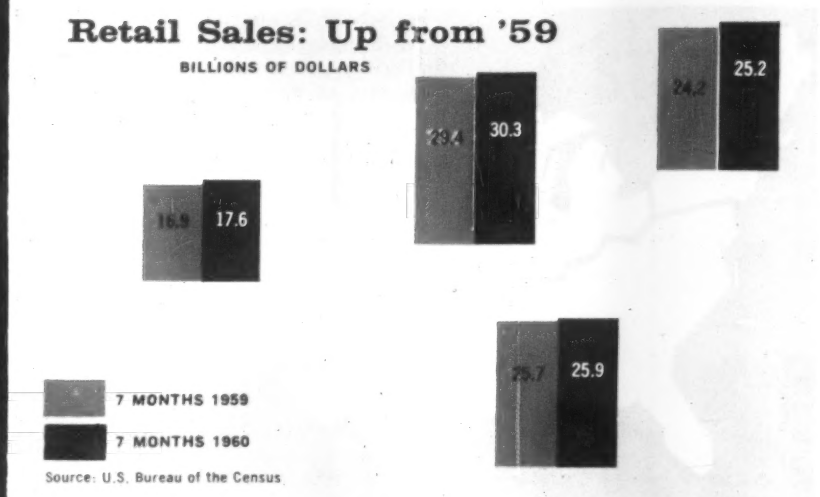

ALTHOUGH GAINS *have been below expectations, so far in 1960 retail volume has shown appreciable increases in the Northeast, Midwest, and West.*

reflected in the recent lag in domestic machine tool orders, but these declines will be offset by foreign orders, which continue high.

Industry's spending plans may also be affected by disappointing profit reports. Profit increases in the first quarter of this year were not as great as expected, and in the second quarter there was a noticeable decline from last year. It is likely that for 1960 as a whole profits will be down somewhat from 1959, with the most appreciable dips in the steel, appliance, textile, and machinery industries. This will be the result of higher labor costs and the increased competition, which makes price cuts necessary.

In the months ahead, the rate of inventory accumulation will not change much from recent levels.

Business men will remain cautious about adding to their inventories, especially those in the durable goods industries. Although stock-sales ratios are still relatively low when historical comparisons are made, the backlog of manufacturers' unfilled orders continues to trail behind sales. Unless a marked pick-up occurs in unfilled orders, inventory build-up will show little change and may even slacken before the end of the year. Strength in orders for some non-durable goods will not be enough to offset any lag in durables.

Much of what happens at the manufacturing level depends, of course, on the consumer. With retail sales running only about 2 or 3 per cent over 1959 so far, consumer buying has been a little disappointing to business men, and especially to retailers of appliances and other household goods. During the rest of the year, shoppers themselves may become a little discouraged by some not-so-optimistic reports on business conditions. Even so, it is likely they will hold their purchases at record or near-record levels.

Right through the end of 1960, the most noticeable gains benefiting retail stores will probably be in sales of men's and women's apparel, television sets, linens, draperies, and food products. More modest gains will occur in furniture, lamps, floor coverings, and children's apparel. There may be a slight rise in volume in major appliances, but it will not live up to the earlier hopes of many business men. The total dollar volume of retail trade for 1960 as a whole will be up about 2 or 3 per cent from 1959, setting a new record.

Robust consumer spending will be supported by the near-record personal income figures generated by the healthy employment levels that industry will require if production schedules continue at their current high, or move up somewhat in the months ahead. These production gains, however, will not be extensive enough to absorb additions to the labor force, and the unemployment rate will also edge up.

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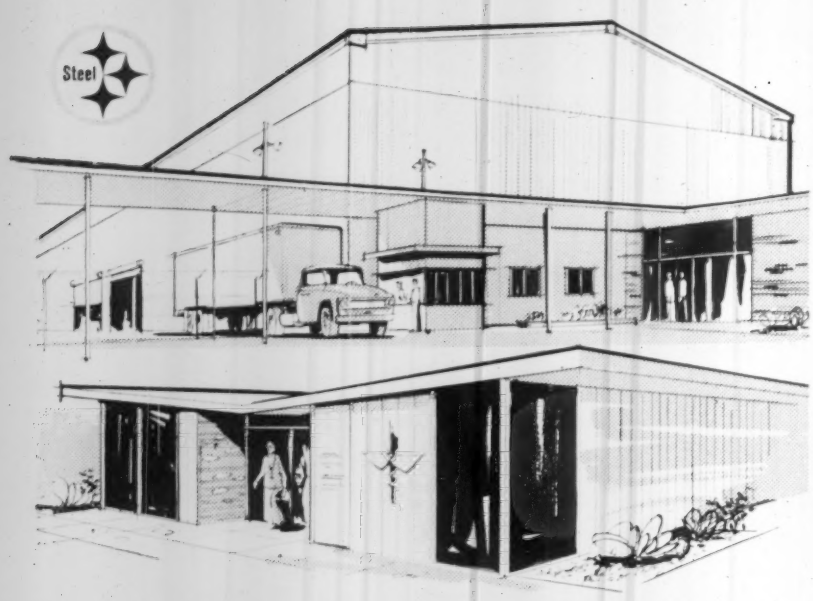

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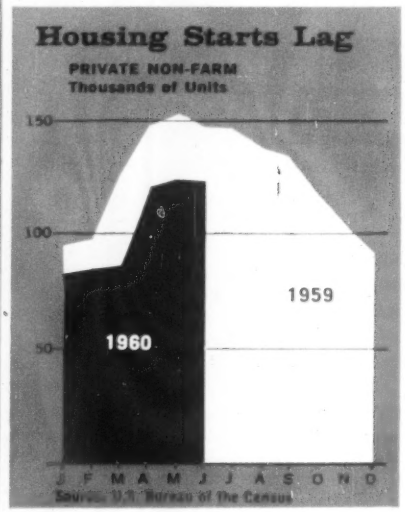
The slight rise in purchases of big-ticket appliances and the introduction of the new cars will moderately boost the rate of increase in consumer instalment credit.

Despite the moderate gain in consumer credit outstanding, once the initial reaction to the new cars has abated, the pace of instalment buying will subside. This is likely before year-end.

With supplies plentiful and competition keen at all levels of business, it is unlikely that the consumer will see much of an increase, if any, in retail prices. As a matter of fact, prices on some appliances, furniture, and food products may dip somewhat, offsetting slight increases in services, medical care, and some items of apparel.



NEW HOUSING *starts during the first half of 1960 ran 18 per cent below 1959, but they are still relatively high.*

Slight increases may occur in housing costs during the rest of the year. These would partly offset the effects that easier mortgage money would have on stimulating home building. The number of new housing starts may move up a little bit from current levels in the months ahead, but the total for the year as a whole will be down appreciably from last year. It should be remembered, however, that when historical comparisons are made, housing starts are still extremely high.

In contrast to the year-to-year declines that have occurred so far this year in housing activity, building contracts for commercial and industrial

construction have been running well over last year. The effects of some of this will be felt in the actual outlays for construction reported in the last months of 1960, which will help bring total construction expenditures for 1960 as a whole close to 1959.

Another prop for construction outlays will be more public spending on waterworks and bridges, which will offset declines in public mass housing. In addition, some rise in the amounts spent on highways is very possible.

Business may well gain support from higher Government defense spending.

We will probably be feeling the effects of increased defense outlays before 1960 rolls to a close. This is especially likely if international tensions show no signs of relaxing.

The Federal Budget for the year ended June 30, 1960, revealed a larger than expected surplus of almost $1.1 billion—in contrast to last year's deficit of $12.4 billion. The 1960 surplus was the result of conscious economizing and generally good business conditions, which helped produce higher than expected revenues. The biggest declines in spending were for farm supports, but the Treasury's outlays were also down because of the big one-time payment to the International Monetary Fund made a year earlier.

The Federal Reserve Board has recently taken steps to ease money conditions, and will take further action if business does not show a substantial pick-up shortly.

Since the Federal Reserve Board has recently increased the lending power of the commercial banks by adding to their reserves, a slight lowering of the prime rate is possible in the near future. (The prime rate is the charge made to preferred borrowers by commercial banks.) This would make more money available for business spending on inventory and new plant and equipment.

The Federal Reserve Board also recently reduced the margin requirement for purchases of stocks from 90 to 70 per cent. This was an attempt to bolster the stock market, which has been sagging in recent months, but as of mid-August, stock prices and trading showed little change.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by John W. Riday.

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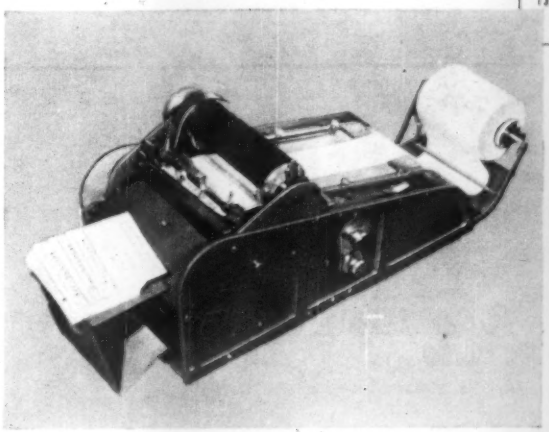

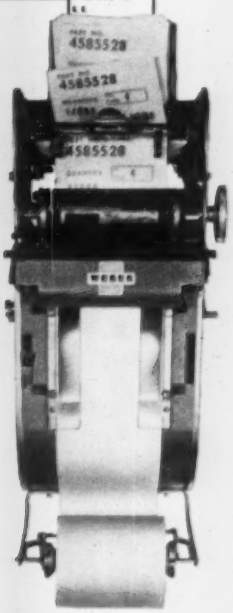

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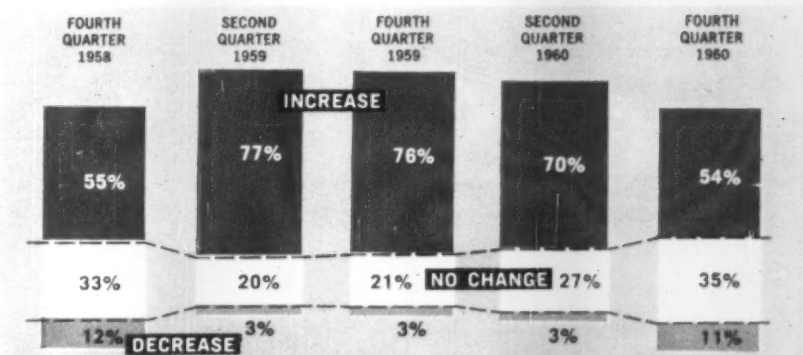
Fourth-Quarter Outlook

COMPARED WITH YEAR-EARLIER OPINIONS

Per cent in 1959				Per cent in 1960		
Up	Same	Down		Up	Same	Down
			ALL CONCERNS			
21	3		Sales	54	35	11
36	3		Profits	42	47	11
65	2		Prices	16	80	4
61	8		Inventories	23	63	14
80	3		Employment	10	84	6
			MANUFACTURERS			
20	3		Sales	57	33	10
35	3		Profits	47	43	10
70	1		Prices	16	80	4
58	8		Inventories	25	61	14
76	3		Employment	14	80	6
32	2		New Orders	46	47	7
			WHOLESALERS			
23	12		Sales	52	36	12
39	3		Profits	37	52	11
56	3		Prices	17	78	5
66	7		Inventories	21	64	15
87	2		Employment	6	88	6
			RETAILERS			
21	2		Sales	48	41	11
31	4		Profits	40	49	11
64	2		Prices	15	84	1
57	10		Inventories	17	69	14
83	2		Employment	9	85	6

Business Men's Expectations

Drop in Optimism Despite High Sales



Sales: How businessmen expected their sales for five selected quarters to compare with actual year-earlier levels. Opinions were gathered three or four months before the start of each quarter.

IN looking at the fourth quarter, 54 per cent of the executives interviewed in DUN & BRADSTREET's latest poll of business men, conducted in late July, expected their sales to be better than the similar period last year, 35 per cent expected no change, and 11 per cent foresaw declines. This was an appreciably less rosy outlook than they saw earlier for the third quarter of this year, or than the comparable forecast for the fourth quarter of 1959.

Although business men usually tend to be optimistic despite the general movement of business activity, past surveys suggest a time factor may influence their opinions.

For example, the current survey was conducted 27 months after the low point of the last recession. Today the forecasts are a little less optimistic than they were at the comparable moment after the 1953–1954 recession, but a little more hopeful than after the 1949–1950 downturn.

Unusual occurrences, such as extended strikes or the Suez crisis, may have influenced both respondents' expectations and actual experience in the quarters covered by the earlier polls. Though no one can predict what will actually happen in the fourth quarter of this year, comparisons with the other polls that were conducted at similar stages of the past two business cycles prove interesting.

Although they didn't rise in proportion to expectations, actual business sales in both the quarters covered by the two earlier polls were higher than year-earlier sales. There seems to be a good chance that sales in the fourth quarter of this year, too, will exceed those of a year ago.

As to profits, in the current poll 42 per cent saw them on the upside, and 11 per cent expected decreases. This was practically the same division of opinion as appeared at the same point in the business cycle following the 1953–1954 recession, although corporate earnings for that quarter were actually up slightly from a year earlier.

A majority of 63 per cent of all interviewed in the latest questioning thought their inventories at the end of the fourth quarter would match year-ago levels, and 23 per cent looked forward to increases. This was pretty much the same as the forecasts in the poll following the previous recession, when the pace of inventory accumulation was slackening, as it was in the months immediately preceding the latest interview period.

In the survey after the 1949–1950 business downturn, the percentage expecting their inventories to be higher was much greater than in the current poll. Inventory levels in the quarters covered by both of the earlier surveys showed increases.

The fourth quarter of this year will probably show gains in inventories from year-earlier levels, but partly because of the new techniques of inventory control and the change in business men's ideas on desirable inventory—the range of the increases is particularly difficult to estimate.

Yet although inventories, profits, and sales for the quarter ahead cannot be gaged exactly, the poll gives an indication of the general atmosphere of business activity at the time the survey was made.

—JOHN W. RIDAY
Business Economics Department

It should be remembered that this survey is not a forecast, but an indication of the views held by a representative group of business men when surveyed late in July.

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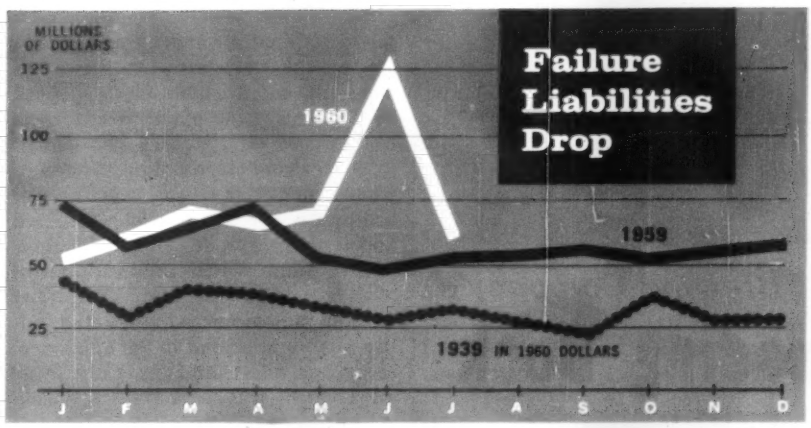
Business Failures

Another shift—this time downward

But tolls still up from year-ago levels



BUSINESS failures, continuing to shift direction from month to month, fell 14 per cent to 1,146 in July. This downturn, stronger than the usual seasonal decline, brought casualties to the lowest level so far this year. Still, the toll remained 7 per cent above the comparable month a year ago and was, in fact, exceeded in only one other July—1958—since 1940.

The rate of failure per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book* dipped to 54.8 but continued above the rates prevailing in most months of 1960. It ran 11 per cent above July last year, when businesses were succumbing at a rate of 49.2 per 10,000.

Dollar liabilities, after an upsurge to a peak of $126.5 million in June, pitched down to $61.7 million in July. Although fewer casualties occurred in all size groups, the steepness of the plunge primarily reflected the drop in exceptionally large failures involving more than a million dollars, which fell to three in July from eighteen in June.

Tolls fell off in all types of operation during July. Wholesaling and

WHY BUSINESSES FAIL: Year ended June 30, 1960

APPARENT CAUSES	MFG. %	WHOL. %	RET. %	CONST. %	COMM. SERV. %	TOTAL %
NEGLECT	2.1	4.1	3.7	3.2	2.9	3.3
FRAUD	1.2	4.2	1.8	1.6	0.8	1.8
INEXPERIENCE, INCOMPETENCE	93.6	88.5	90.2	91.5	90.3	90.8
Inadequate sales	55.5	50.7	51.2	38.1	53.4	50.0
Heavy operating expenses	7.2	4.3	3.8	9.5	5.4	5.5
Receivables difficulties	10.9	15.2	4.9	14.8	4.5	8.5
Inventory difficulties	3.9	8.5	8.9	2.4	1.8	6.3
Excessive fixed assets	9.8	3.0	4.6	3.7	12.1	5.9
Poor location	0.2	1.0	4.1	0.3	2.3	2.3
Competitive weakness	18.8	20.6	24.1	29.7	20.0	23.3
Other	5.0	4.2	3.7	7.3	2.7	4.4
DISASTER	1.3	2.5	1.6	0.3	1.4	1.5
REASON UNKNOWN	1.8	0.7	2.7	3.4	4.6	2.6
TOTAL NUMBER OF FAILURES	2,531	1,406	6,874	2,298	1,282	14,391

Compiled by DUN & BRADSTREET, INC. Classification based on opinions of creditors and information in credit reports. Since some failures are attributed to a combination of causes, percentages do not add up to 100 per cent.

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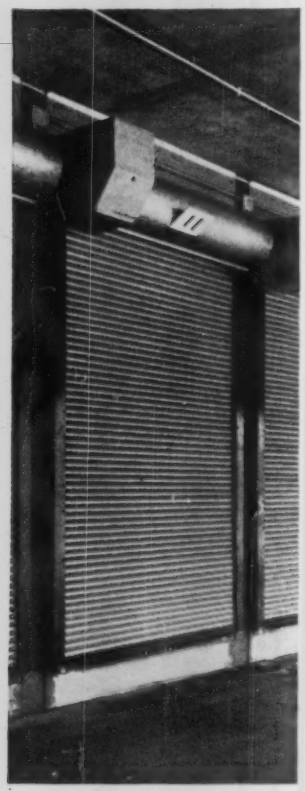

Here again, Kinnear Rolling Doors play a key role in *modern efficiency at its best!*

The 23 power-operated Kinnear Rolling Doors you see above are controlled independently from a master switch.

Conveyors ending just inside each door deliver pallets holding cases of beer to the loading dock. The door can then be opened by remote control. A fork truck picks up the pallets, travels onto dock levelers (at right, top photo) and loads the pallets on the waiting truck.

(Empty cases on pallets are returned to other conveyors through doorways installed higher above the dock level.)

By opening straight upward and coiling compactly over the doorway Kinnear Rolling Doors permit conveyors to come within *inches* of the door. Doors can be placed as close together as desired, with control switches at each door if preferred.

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service mortality dipped only fractionally, but casualties among manufacturers dropped sharply to the lowest level since 1956. The most noticeable declines appeared in the steel, lumber, and furniture industries. Construction failures slid back down to their level at the beginning of the year, but the decrease was modified by the continuing high toll among subcontractors.

Neither manufacturers nor wholesalers suffered as many casualties as in July of last year. On the other hand, the most sizable increase from 1959 levels took place in construction, where the advance accelerated to 40 per cent. In retailing, casualties rose some 11 per cent, with a concentration of heavier tolls in the food and restaurant trades and in the automotive group, where failures climbed to a new postwar high. The only marked improvement in the retail failure picture appeared in the appliance, radio, and television lines. Little overall change was noted in services: A drop in the transportation toll was offset by a rise in business service casualties.

All geographic regions reported downturns between June and July except the East North Central States. Failures there continued up in Ohio, Michigan, and Indiana (which suffered its highest toll since 1954). There was a rise in failures in a few other individual states, notably Flor-

THE FAILURE RECORD

	July 1960	June 1960	July 1959	% Chg. †
DUN'S FAILURE INDEX*				
Unadjusted	51.0	57.2	45.8	+11
Adjusted, seasonally	54.8	57.2	49.2	+11
NUMBER OF FAILURES	1146	1334	1071	+ 7
NUMBER BY SIZE OF DEBT				
Under $5,000	129	143	114	+13
$5,000–$25,000	520	591	508	+ 2
$25,000–$100,000	359	423	340	+ 6
Over $100,000	138	177	109	+27
NUMBER BY INDUSTRY GROUPS				
Manufacturing	173	228	203	−15
Wholesale trade	106	110	113	− 6
Retail trade	573	680	518	+11
Construction	192	213	137	+40
Commercial service	102	103	100	+ 2
LIABILITIES (*in thousands*)				
CURRENT	$61,732	$126,450	$51,197	+21

*Apparent annual failures per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*.

†Per cent change, July 1960 from July 1959.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in a loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or governments; they do not include long-term publicly held obligations.

FAILURES BY DIVISION OF INDUSTRY

	Cumulative total (Seven Months)		Liabilities in million $	
	1960	1959	1960	1959
MINING, MANUFACTURING	1475	1439	169.7	111.1
Mining—coal, oil, misc.	58	48	11.5	4.6
Food and kindred products	103	105	24.4	8.6
Textile products, apparel	249	239	19.6	12.2
Lumber, lumber products	296	288	21.8	14.8
Paper, printing, publishing	103	105	5.2	6.5
Chemicals, allied products	35	37	2.0	2.8
Leather, leather products	46	49	9.0	4.4
Stone, clay, glass products	29	32	3.2	2.5
Iron, steel, products	91	86	13.5	5.9
Machinery	151	140	25.0	22.8
Transportation equipment	64	56	8.6	5.2
Miscellaneous	250	254	25.9	21.0
WHOLESALE TRADE	843	830	64.4	50.2
Food and farm products	197	179	21.4	16.1
Apparel	28	25	2.1	1.1
Drygoods	22	22	1.0	.7
Lumber, bldg. mats., hdwre	110	85	9.7	5.9
Chemicals and drugs	28	35	1.1	1.0
Motor vehicles, equipment	70	49	3.4	2.6
Miscellaneous	388	435	25.8	22.9
RETAIL TRADE	4294	4238	131.9	153.6
Food and liquor	619	673	16.1	18.2
General merchandise	163	194	10.2	14.4
Apparel and accessories	609	662	15.0	29.6
Furniture, furnishings	591	510	21.8	22.4
Lumber, bldg. mats., hdwre	277	258	10.9	8.4
Automotive group	705	591	25.5	15.9
Eating, drinking places	796	823	20.3	23.7
Drug stores	86	72	1.8	2.1
Miscellaneous	448	455	10.4	19.0
CONSTRUCTION	1468	1179	96.4	67.5
General bldg. contractors	559	403	47.6	36.2
Building subcontractors	815	679	41.1	24.2
Other contractors	94	97	7.7	7.1
COMMERCIAL SERVICE	773	753	53.2	38.0
TOTAL UNITED STATES	8853	8439	515.5	420.4

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

ida and Washington, although their regions as a whole had lower business mortality during July.

Despite the month-to-month declines, casualties in six of the nine major regions exceeded their year-ago levels. Strong upturns were noted in the Mountain, East North Central, and South Atlantic States. Most of the rise from July 1959 occurred in non-metropolitan districts. Only a few of the 25 largest cities reported noticeable increases—Buffalo, Newark, Houston, and Seattle.

Reasons underlying the failures, as determined in our survey of the past twelve months, are summarized in a table accompanying this report. A major portion of the casualties continue to stem from inept or inexperienced management decisions. Although the underlying causes do not vary appreciably from month to month, the outward signs—problems with sales, inventory, receivables—change as the business climate shifts.

This report was prepared in the Business Economics Department by Rowena Wyant.

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WASHINGTON Business Front

JOSEPH R. SLEVIN

- *The ideological split between the parties shows up vividly in their platforms.*
- *But after the election? Political experts doubt either man would buck the trend.*
- *More Federal Government spending, a drive for faster economic growth seem in the cards.*

WASHINGTON, D.C.—The Presidential campaign is moving into high gear, and the orators are issuing their customary warnings that the decision of the voters in November will profoundly influence the course of the United States for years to come. It is a time-honored admonition, but there is more than the usual reason to suspect that this time it may be true.

Vice-President Nixon and Senator Kennedy are running on dramatically different domestic platforms. The Democrats have adopted the most vigorously "liberal" platform that ever has been indorsed by either of the two major political parties. If Senator Kennedy wins in November and makes only a small start at carrying out the Democratic campaign promises, there will be a substantial expansion in the activities of the Federal Government.

It's easy, of course, to exaggerate the differences between the parties, and the consensus in the capital at the moment is that any Kennedy administration will be less radical than the Democratic platform and that any Nixon administration will be more liberal than the Republican pledges.

The responsibilities of the Federal Government have increased—not diminished—during the seven-and-one-half years of the Eisenhower administration. They quite certainly will increase even more rapidly if Nixon enters the White House. The Vice-President is more conservative than Republicans like New York Governor Nelson A. Rockefeller, but he is appreciably more liberal than Mr. Eisenhower. He has worked during recent weeks for the enactment of Federal aid to education, medical care for the aged, and higher minimum wage bills, and he would sponsor additional welfare measures as President.

Yet there is a clearly defined ideological split between the Democrats and the Republicans, and it is etched with remarkable sharpness in the platforms they adopted in July.

Planks apart

The chief emphasis of the domestic planks of the Republican platform is on achieving prosperity and a higher standard of living through an effectively operating free enterprise system. The Republicans emphasize the importance of the financial and fiscal virtues, of stable prices and sound currency. They say there are services that should be provided by the Federal Government, but they stress that the Federal Government should act only if the services cannot be adequately provided by private efforts or by state and local governments.

The Democrats take a sharply different view. Although their platform vigorously indorses free competitive enterprise as "the most creative and productive form of economic order that the world has seen," the Democrats make it plain they think that the Government should greatly enlarge its activities.

Their platform, which was adopted before the August Congressional session, calls for making the economy grow at an average rate of five per cent a year. Where the Republicans said, for example, that the Government can help to stimulate economic growth by providing more "realistic incentive depreciation" allowances to business, the Democrats offer no tax incentives for business investment and say, instead, that a Democratic President's "first step" will be to "put an end to the present high-interest, tight-money policy."

The Democrats set but one "paramount objective" in their domestic program: "full employment." They promise full employment and they say they will promptly counter any appearance of recessionary forces by initiating public works or temporary tax cuts. The Republican platform promises to use "the full powers of Government" to prevent both depression and inflation, but both Nixon and the Eisenhower administration have rejected public works as an anti-recession device, on the grounds that public works start too slowly and often make themselves fully felt only after the economy has begun to climb up again.

continued on page 20

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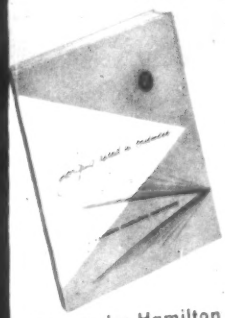

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continued from page 16

The Republicans drafted their program after the Democratic convention had ended, and they made sure there would be no misunderstanding their distaste for the Democratic promises.

"We reject the concept of artificial growth forced by massive new Federal spending and loose money policies," the Republican platform says. "The only effective way to accelerate economic growth is to increase the traditional strengths of our free economy—initiative and investment, productivity and efficiency."

Where the Democrats went much further than they have in the past in outlining a philosophy of expanded Federal Government responsibility, most of the Republican recommendations are traditional GOP proposals that fall into a familiar pattern: tax reform, the elimination of "featherbedding," prevention of inflationary wage-cost pressures, and the protection of a stable dollar.

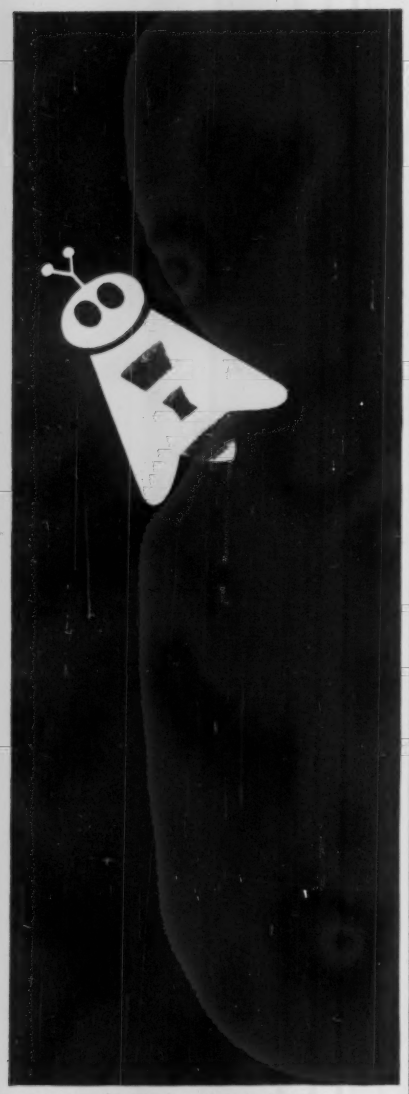
State and local roles

The sharp conflict between the Republican and Democratic attitudes toward the role of the Federal Government is made vividly clear by two platform statements.

The Republican: "Vigorous state and local governments are a vital part of our Federal union. The Federal Government should leave to state and local governments those programs and problems which they can best handle and tax sources adequate to finance them. We must continue to improve liaison between Federal, state, and local governments. We believe that the Federal Government, when appropriate, should render significant assistance in dealing with our urgent problems of urban growth and change. No vast new bureaucracy is needed to achieve this objective."

The Democratic: "The Democratic Party believes that state and local governments are strengthened—not weakened—by financial assistance from the Federal Government. We will extend such aid without impairing local administration through unnecessary Federal interference or red tape."

Perhaps the most significant break with past policies in the Republican platform is a forthright call for more rapid economic growth. "We must raise employment to even higher lev-



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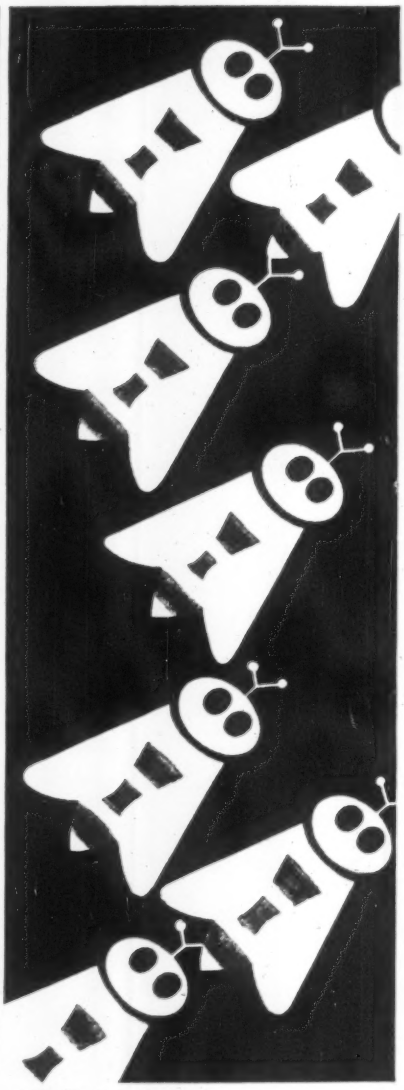

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els and utilize even more fully our expanding over-all capacity to produce," the Republicans declared. "We must quicken the pace of our economic growth to prove the power of American free enterprise to meet growing and urgent needs."

The pledge to "quicken the pace of our economic growth" stems directly from the historic Rockefeller-Nixon "Fifth Avenue Pact." Rockefeller would have liked Nixon to adopt his own theory that the economy should be made to grow at an average annual rate of 5 to 6 per cent, but that was further than the party's subsequent nominee was willing to go.

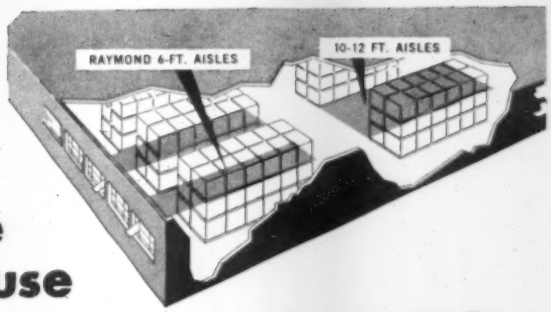
Even so, what Nixon as an individual and the Republican Party through its platform now have said is that the American economy has been growing too slowly, that it must be made to expand more swiftly in the years ahead. The declaration is extraordinarily important. The Republicans are not committed to achieving a fixed growth rate as the Democrats are—and they are continuing to stress expansion of private activity rather than of schools, roads, hospitals, and other parts of the "public sector." But the Republicans now have a growth target, too—a percentage higher than the average rate of recent years.

This is precisely the sort of goal that the Eisenhower administration persistently has refused to establish. It has feared that a failure to achieve a set growth rate would immediately generate powerful demands that the Federal Government take steps to assure that the target is reached.

The key is growth

The Republicans have affirmed that they will place their prime reliance upon the private economy in trying to stimulate more rapid growth. "The way to insure maximum growth in America is not by expanding the functions of Government but by increasing the opportunities for investment and creative enterprise for millions of individual Americans," the Vice-President said in his acceptance speech at Chicago. But, if he wins in November and the economy does not grow more rapidly after he enters the White House, he will be subjected to enormous pressure to adopt Federal spending programs of the sort that the Democrats have advocated and the Republicans have denounced.

END



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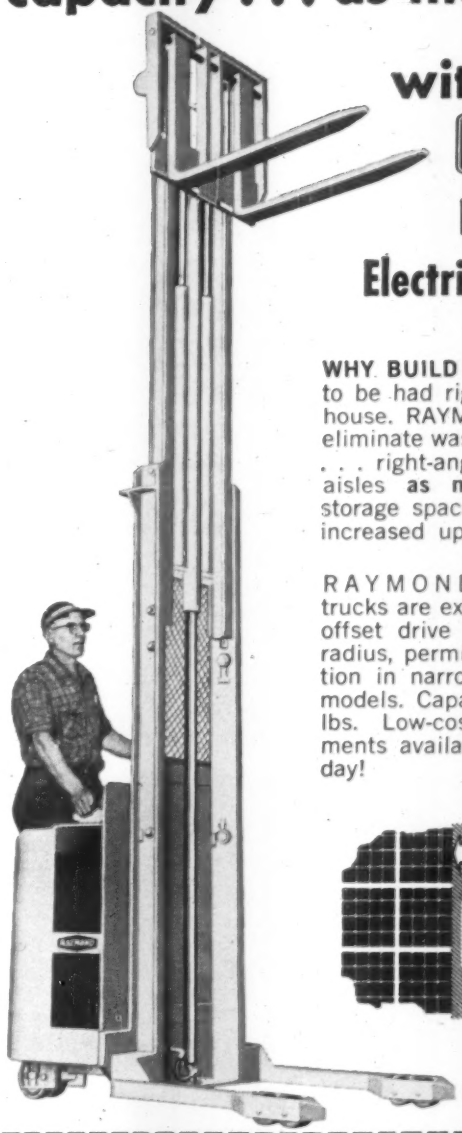

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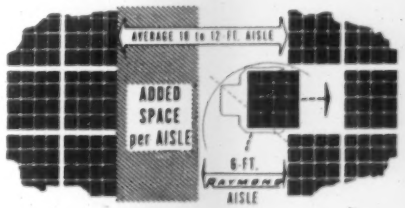

The RAYMOND CORPORATION
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( ) Please send electric truck bulletin

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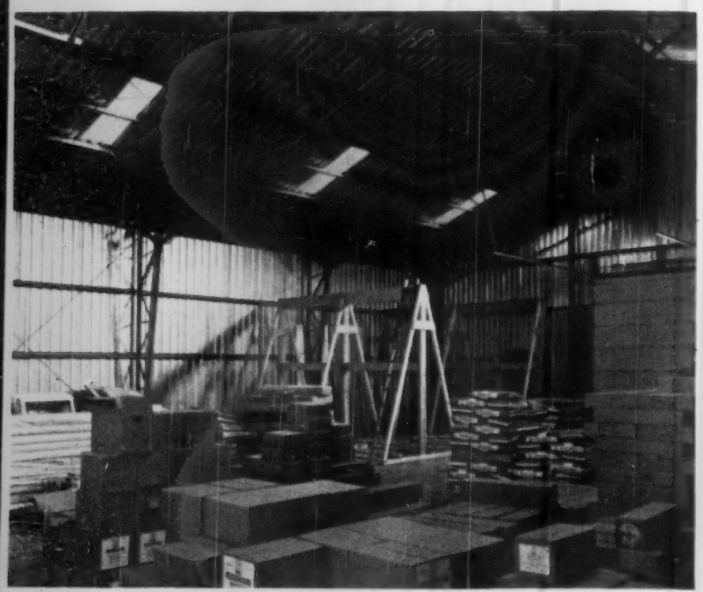

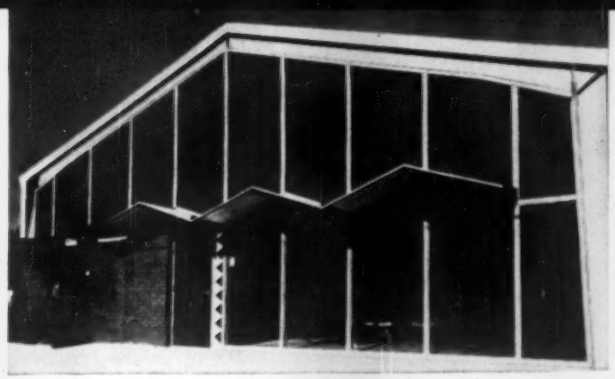

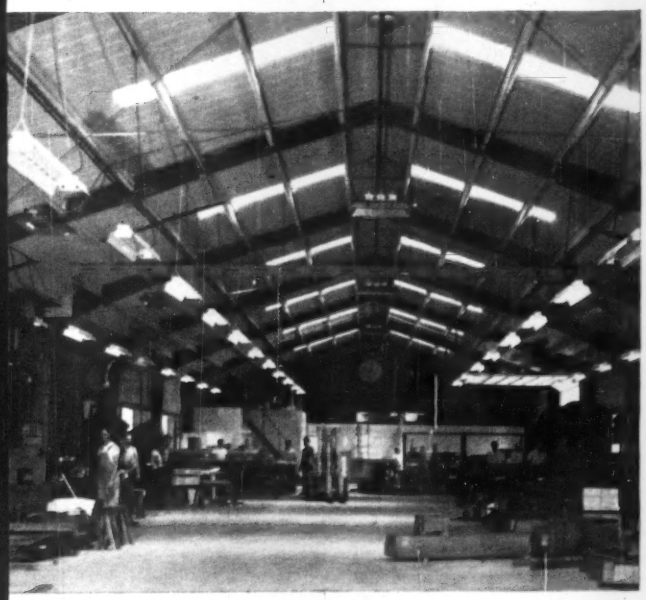

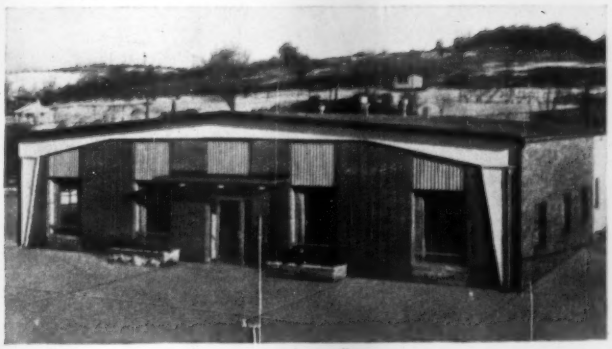

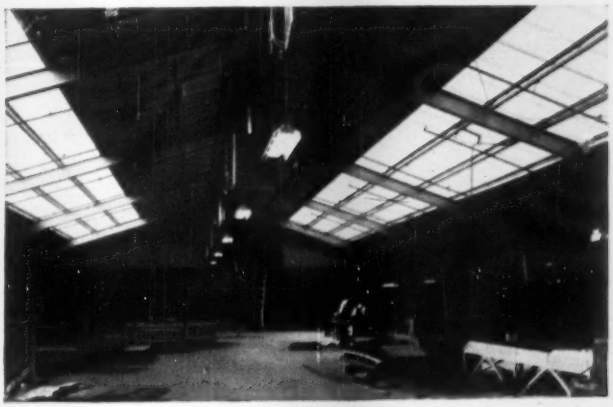

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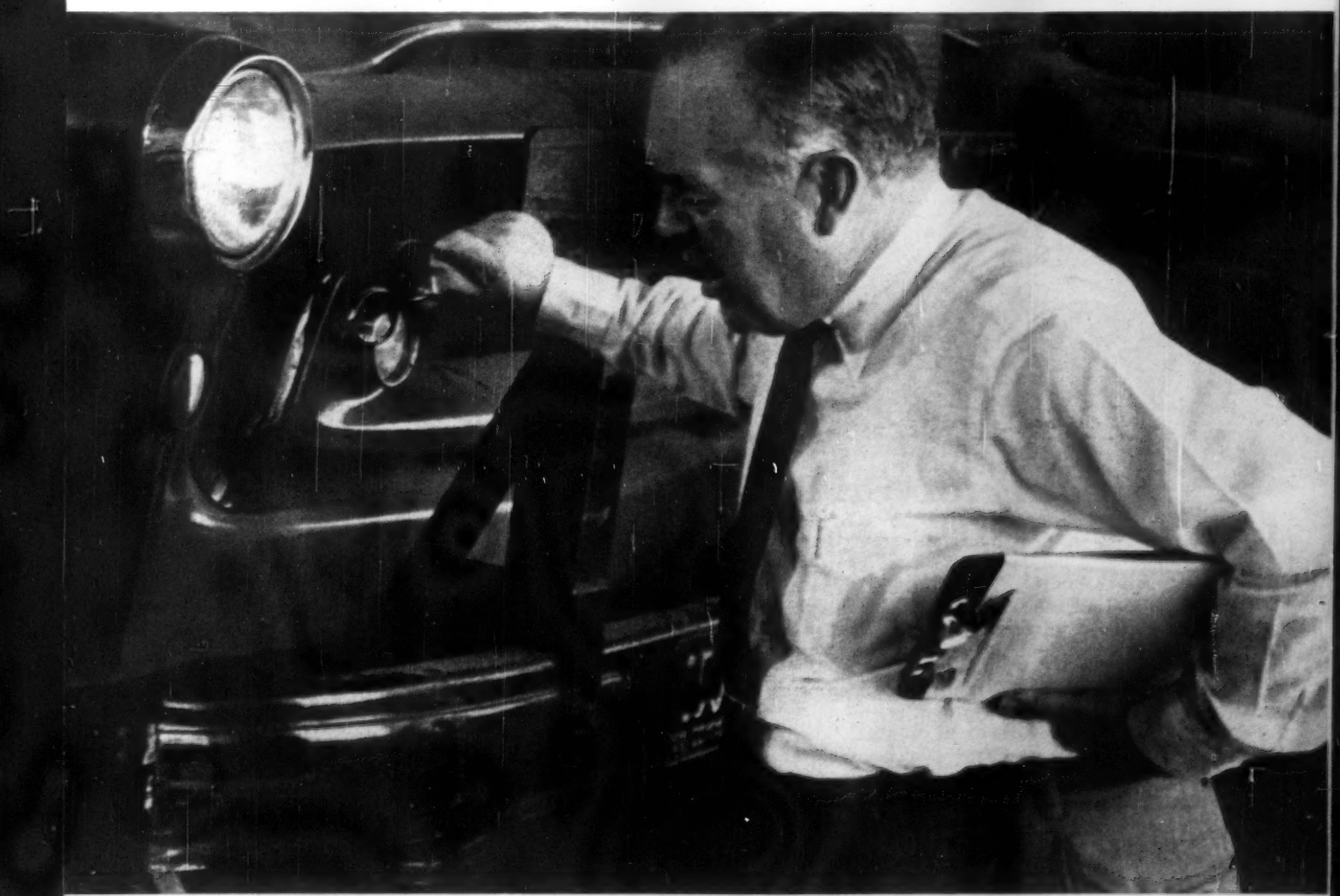

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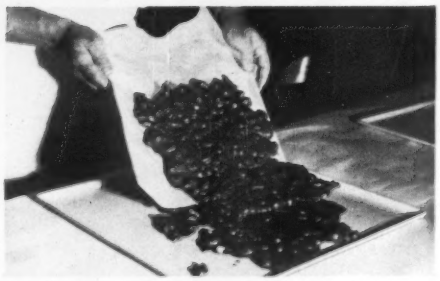
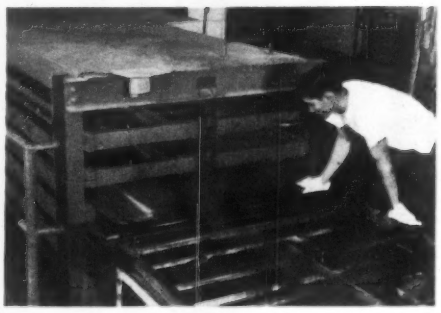
SILICONE NEWS from Dow Corning

New Process Aid

Silicone Coated Papers Speed Processing of Sticky Products





When processing sticky materials and products, such as raw rubber, candy or resin-bonded laminates, "stickers" can cause lost time and extra cost. They can, but don't . . . if you specify interleaving or process papers with the new Syl-off® silicone stickproof coatings. Syl-off coated papers give quick, easy and complete removal of sticky products, help keep production moving smoothly, hold product waste to a minimum.

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For complete technical information about any silicone product, contact the Dow Corning office nearest you.

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MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D. C.

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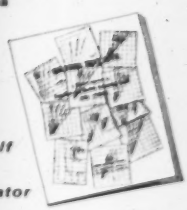
For years Exide has studied electric industrial truck economies. Now a clear plan has been developed which lets you prove to yourself how much your own company can save. Your local Exide representative comes to your plant and surveys your truck operations. He uses your own figures for work cycles and load sizes. Then he works out with you the dollars and cents of extra profit you can make.

The total savings depend on the number of trucks you operate and their size. Average is $1,000 per truck per year. On large trucks it is much higher. The surprising fact is that in so many cases, the savings represent a substantial percentage boost in company profit. And besides, there are significant operating advantages to electric industrial trucks that everybody likes . . . from plant engineers to operators.



Free do-it-yourself cost calculator

Just fill in the blanks, using figures from your own records, and you can calculate how much your present industrial trucks are costing you . . . and how much you can save by switching to electrics. Write Exide Industrial Division, The Electric Storage Battery Company, Rising Sun and Adams Aves., Phila. 20, Pennsylvania.

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We'll compile a report tailored to your specific new plant needs. Write Commissioner Keith S. McHugh, Dept. of Commerce, Room 356, 112 State St., Albany 7, N. Y. (All contact between your office and ours will be kept *under* our hat.)

GET UP TO DATE ON NEW YORK STATE . . . WHERE THEY'RE TALKING THE BUSINESSMAN'S LANGUAGE

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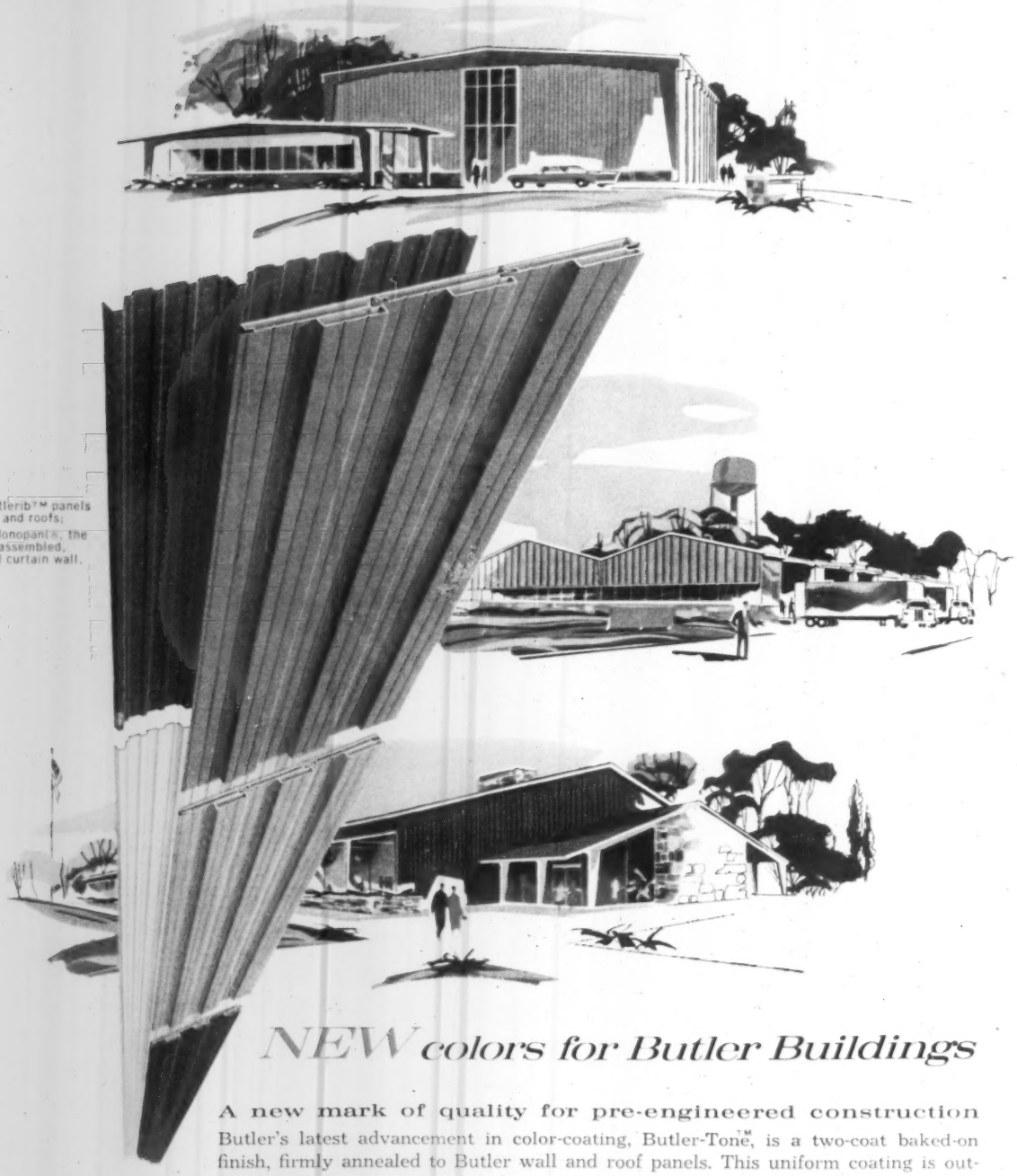

left — Butlerib™ panels for walls and roofs; right — Monopanel™, the new pre-assembled, insulated curtain wall.

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A new mark of quality for pre-engineered construction

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Butler-Tone colors are another reason why more and more people are turning to the Butler Building System as the *lowest-cost way to build well.* For your new building, take advantage of the wide, clear spans of Butler rigid frames . . . the fast trouble-free construction . . . and the dependable, talented services of the nationwide group of Butler Builders.

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DUN'S REVIEW
AND MODERN INDUSTRY
September 1960

EDITORIAL

The Leader and the Layman

THE layman cannot evade decisions by averaging out the opinions of experts. In diplomacy, he has observed the policy variations of Acheson, Dulles, and Herter, in military planning of Generals Twining and Taylor and Admiral Burke. In education, there are the conflicts of Dewey, Hutchins, and Adler. In economics, we watch the merry-go-round of Galbraith, Keyserling, and Keezer. In management, we observe the mental sparring of Blough, Randall, Cordiner, and Eaton. In labor, there are differences among Lewis, McDonald, Meany, and Reuther.

It is up to the individual to gather facts and weigh opinions, but no thinking man gives a blind allegiance to a point of view because of his faith in a leader rather than his understanding of a principle. And no man's business judgment can be immune to the influence of forces generated in other areas of life which impinge on the channels of industry and trade. There are tidal influences in mass thinking, and there are shifting currents in social attitudes. Every political, educational, and economic shift bears directly upon the profits of risk-takers in business, the income of professional men, and the wages of workers.

In the reckoning of the professional politician, a consistent pragmatist, the tidal impact of trends overwhelms the independent and contrary minor currents of the thinking individual. History supports the public leader's reliance on group psychology, yet there is increasing evidence of the influence wielded by the individual who refuses to be labeled and taken for granted. Group loyalty without intellectual appraisal of the merits of a cause is another name for bulk stupidity. Herein lies the greatest challenge of democracy: intelligent minority action can be impeded by majority inertia. This is true of any splinter group, left or right.

Actually, the black-or-white notions of liberal or reactionary on any political, social, or economic question are likely to be in error. A statistical average is helpful in dealing with dollars or products, but it seldom gives an accurate picture of the individual mind. There are times when the typical citizen surrenders part of his personality to a group cause, but he never wears an indelible stamp of affiliation. The unions have never been able to deliver "the labor vote" to a political candidate. The farm bloc cannot claim all the men who till the soil, nor can the Chambers of Commerce speak for every business man. In the cattle drive to the corral, there are always independent minds that will escape.

America needs experts and has no want of aspirants to leadership. But, to qualify, they must give evidence of a broad-gage understanding of the total economy. We need the whole man rather than the special pleader. The citizen looking for guidance cannot give his enthusiastic support to any individual whose motives, integrity, and capacity for leadership are untested. Every generation has its quotas of heroes, martyrs, and demagogues whose urge for the spotlight is never satisfied. Men of honorable, as well as men of ignoble, designs share the hunger for acclaim, and the good leader's right to applause and recognition should not be denied. Sometimes it is the only tangible benefit he gets for a life of dedication to a fickle public. The next best thing to a good leader is a steadfast and discerning follower who knows where he is going and can tell you why he is taking that particular road.

"We'd be foolish not to make the most of our tremendous purchasing power."
—Sales manager, oil company

"Sometimes I seem to spend 110 per cent of my time worrying about trade relations."
—Executive, metals producer

RECIPROCITY

Industry's Secret Sales Weapon

Nobody really likes it, but in some industries hardly anybody dares to buck it—you buy from your customers, or else. Now, as competition gets hotter, more companies are beginning to feel the pressure to get into line.

TO pull their customers into line, while prodding their own companies' purchasing agents, more and more industrial salesmen are dropping the soft sell and taking up the big stick of reciprocity. Business executives in the "tonnage" industries which are the backbone of American industry—transportation, metals, rubber, paper, chemicals, machine tools, electrical machinery, railroad equipment, oil—told DUN'S REVIEW editors of their concern over the steady rise in reciprocal pressures matching the rise in competition. Today, only in the consumer goods and defense industries are such pressures a rarity.

Increased competition is not, however, the only reason why reciprocity is spreading. It is also being stimulated by the steady growth in the number of highly diversified manufacturing corporations. More purchasing power in more divisions means greater "leverage" for practicing reciprocity.

The most common form of reciprocity, and the one which influences the largest part of all dollars exchanged in trading, is in sales between manufacturing corporations. Whether or not it's put into words (a recent survey showed that only 2 per cent of American manufacturers have a written policy on the subject), "You buy my product and I'll buy yours" is a commonly used—and understood—sales formula.

But the sales department is not the only one involved. The manufacturer who sells to common carriers expects his traffic manager to smooth the way for company salesmen. Conversely, the carriers expect business in return for purchases of equipment.

Reciprocity can take many other forms. For example:

- When a bank or insurance company puts up a new building, the contractors are usually long-time clients.
- Many big manufacturers are very careful to tell their printers and advertising agencies where to buy the paper for their printed matter. Such loyalty does not go unrecognized.
- Although the defense industries in general avoid the use of reciprocity, some witnesses at hearings of the Senate Small Business Committee have hinted at reciprocal deals in the awarding of defense subcontracts.
- According to Sam Lee, president of Lee Fleet Management, Inc., a company leasing fleets of cars or trucks often seeks to preserve reciprocal buying power by insisting on

"We'll play ball as long as it doesn't cost us anything."
—*President, diversified company*

"Nobody likes to be beaten over the head by the big stick of trade relations."
—*Management consultant*

"Selling tactics based on reciprocity build up my sales resistance."
—*Purchasing agent, machine tool builder*

"It denudes the purchasing agent of his job."
—*Trade relations manager, electrical manufacturer*

"An unhealthy practice. It can become a narcotic for salesmen."
—*Chemical company president*

"I think it's just about the poorest way to sell merchandise."
—*Car fleet leaser*

"We expect support from carriers who get our traffic."
—*Traffic manager, rubber company*

"Trade agreements dampen the ambition of the individual and weaken free enterprise."
—*President, chemical and drug company*

"If it had never been invented everyone would be better off."
—*Executive, printing ink manufacturer*

the right to name specific vehicle dealers to supply the machines.

To a lesser degree, reciprocity can also affect other aspects and areas of business:

Plant location: One electrical equipment manufacturer never locates plants in areas not serviced by utilities that are customers.

Diversification: Some manufacturers hesitate to acquire companies that compete in some way with good customers, because they want to avoid upsetting pleasant reciprocal relations. Companies that have diversified without keeping this factor in mind have lost valuable business.

Product or process licensing: In drugs and chemicals, manufacturers often favor their good customers.

Plant construction: When a Dresser Industries division built a new plant, management specified gas-powered air conditioning, despite its higher cost. The plant makes pipe-joining and repair gear for the natural gas industry.

Give an inch . . .

To meet reciprocal pressure from customers, some companies try to practice token trade relations. Regardless of price, quality, or service, they place small orders with customers wherever possible. The trouble with such compromises is that the customer is rarely satisfied with token orders: He wants *all* the business.

Pressures to adopt all forms of reciprocal relations are conveyed in a variety of ways, ranging from delicate hints to naked threats. They are nearly always put informally, and often on the executive level.

The head of a tool-and-die company in Detroit says that all of his business contacts at one auto manufacturing company gave him "pointed hints" that he was driving "the wrong kind of car," later—when he had bought the "right" kind—complimenting him on his good taste. (Many suppliers to the auto industry buy company cars from each of the "Big Three." Their salesmen use the "right" car, depending on which company they are visiting.)

Despite wide opposition to its use, reciprocity does offer some legitimate economic benefits. First of all, selling costs are reduced: Salesmen can concentrate on the tough customers. On the basis of captive markets guaranteed by reciprocity, management can also plan plant expansion and other major capital expenditures with greater assurance.

Yet although many salesmen are only too happy to include reciprocity in their bag of tricks, some executives assert that a company's sales force can be weakened by reliance on reciprocity. The president of Dixon Chemical and Research, Inc., believes that use of reciprocity is one major factor contributing to the decline of the "old-fashioned hustling salesman" and his replacement by a mere "order-taker." Purchasing agents, too, lose the will to do their best job when the top executives continually tell them where, when, and how to buy.

When competition is using reciprocity effectively against a company, it often feels that it has no choice but to retaliate. Only the most foolish, however, launch a series of threatening phone calls. Men experienced in trade relations emphasize that in view of the widespread distaste for reciprocal deals—even among officials of companies that make them—tact, mature judgment, and close executive supervision are extremely important. And if a company uses reciprocity as its main sales weapon in gaining a large share of a given market, it is asking for attention from the Justice Department and the Federal Trade Commission.

Too clever by half

Aside from the desire to avoid the undesirable reputation of using purchasing power as a club, companies are afraid that a heavy-handed approach to reciprocity can boomerang. One company's salesman implied, without official sanction, that his plant would buy its fuses elsewhere if he didn't get an order for the fuse manufacturer's annual acid needs—a matter of only a few hundred dollars. To his surprise, the purchasing agent showed him the door. A few day later, he was even more startled when his boss handed him a pink slip, explaining that the irate purchasing agent had canceled an order for many thousands of dollars worth of paint from another division of their company.

Many decentralized companies which practice reciprocity find it necessary to centralize purchasing or at least supervise purchasing carefully. In diversified, multi-divisional organizations, the trend is to appoint a specific official called "director of trade relations" or "manager of customer relations." His job is to "educate" company personnel on the company's reciprocity policy and to act as an intermediary.

In adopting a policy of reciprocity, a company must choose between buy-

ing from customers only when they offer quality and service equal to their competitors', or buying from customers under all circumstances.

There are obvious disadvantages to a rigid policy of always buying from customers, a not uncommon rule in many companies. Such rigidity carries with it a clear risk that the company will pay more than it needs to or will get less service and lower quality. Companies which invariably buy from customer-suppliers often feel the good will gained makes the risk worthwhile. Although R. L. Lozon, Glidden's director of purchases and trade relations, admits the company has suffered on a few occasions, he points out that its customers are all reputable organizations. Glidden is satisfied their products are of the best quality.

Other companies which have the same policy, but not the same luck, decide exactly to what degree they will modify their standards and then deal tactfully with each situation.

Even the more common practice of buying from customers when price, quality, and service are equal, however, can sometimes lead to higher costs. Generally, this policy means careful apportionment of purchases among qualified customers in relation to sales. In buying chemicals, plastics, steel, or truck tires, this policy can hardly raise costs. But in buying complicated production or office equipment, apportioning purchases can lead to all the difficulties associated with a lack of standardization.

Companies which are against reciprocity on ethical grounds, or which lack the purchasing power to use it, have learned that the pressure to conform can be resisted successfully. The president of Dixon Chemical claims that his company held on to sales by offering better and faster delivery service to counter the reciprocal pressure of its big competitors.

The traffic manager of a railroad equipment manufacturer says he was able to modify a trade relationship that was costly to his employer by presenting his case to a customer railroad tactfully. For years beyond recall, his company had shipped semi-finished material between two plants by rail. The shipments had to travel 200 miles that way, including some switching. The plants, however, were only 50 miles apart by road. After the traffic manager took over, he diplomatically approached the officials of the railroad, asking if they would be angered if the shipments went by truck. They raised no objection and the company has been able to save half the cost of shipping the material.

When reciprocal pressures are applied by the representative of a big, diversified manufacturer, some companies will check to find out if they are already buying other products from the manufacturer. If so, they find they have a sharp weapon to deflate the salesman's demands.

Playing with fire

As long as reciprocity means no more than the very human practice of giving qualified customers the inside track, the ethics involved and the practical advantages and disadvantages entailed will remain a matter for individual company decision. But if the increasing sharpness of competition drives some desperate or unscrupulous executives to misuse their companies' purchasing power, if too much brutal application of reciprocity occurs, they will be inviting restrictive legislation.

Even a headline-grabbing investigation that doesn't result in any repressive law could be as damaging to the public image of American industry as recent investigations of the broadcasting, record, and drug industries. So far, "reciprocity" has only been mentioned incidentally in Congressional hearings. A large-scale televised hearing devoted to the subject, however, could backfire on all companies that practice reciprocity, no matter how passively. Clearly, top managements have a duty to review their policies, formal and informal, on reciprocity and to keep a close check on how they are implemented.

MELVIN MANDELL

How One Big Company Handles Its "Trade Relations"

Despite its commitment to decentralization, one big diversified American corporation finds that reciprocity is too hot a potato to escape centralized supervision. The supervising—or, rather, "coordinating"—is done by an experienced executive with the title of manager of trade relations.

This company believes that it is "sound practice" to do business with customers, provided "price, quality, service, and other considerations are equal." The company looks on reciprocity as an "influence" on the purchasing agents rather than as an "absolute." No attempt is made to balance purchases and sales dollar for dollar.

Nevertheless, the company insists that its purchasing agents buy equipment that includes components made by the company whenever possible. Similarly, they try to get spare parts supplied for older equipment which contain components of the company's manufacture.

Purchasing agents are also expected to maintain an "open-door" policy towards customers. As long as they subsequently "earn it," customers get advice, assistance, and the opportunity to bid for business.

The company's salesmen are warned not to wield the big stick of reciprocity. They are instructed to "earn any business we obtain from our customers." However, salesmen are encouraged to act within the company as a "friend-in-court" to customers, providing an extra channel of appeal beyond the regular ones.

The manager of trade relations frequently serves as intermediary between a salesman acting as a friend-in-court and a company purchasing agent. His major duty, however, is traveling about the country "educating" the company's salesmen and purchasing agents on the company's reciprocity policy, which still remains unwritten after decades of enforcement.

The manager of trade relations describes his company's use of reciprocity as "essentially passive." He claims that officials of other corporations have told him that the company is not taking full advantage of its purchasing power.

The financial statement may reflect a company's past, says one of top management's most eloquent spokesmen. But how much does it tell of the future—or of the men whose actions today determine tomorrow's profits?

The Myth of the Perfect Balance Sheet

CLARENCE B. RANDALL

"THE King was in the counting house, counting out his money."

What a field day that must have been for the financial analysts of the time! There the old boy sat, smugly piling up the bullion in neat rows. Incredibly solvent, he owed no man a farthing. The glory of his ancestors shone round about him. Tenaciously he guarded the cash that had been handed down to him—but he was blind to what was going on outside the palace. He did not realize that he was presiding over the disintegration of his kingdom.

We have companies like that—fine old institutions with great names and impressive records, which begin to fall apart long before that sinister fact is recognized by the investing public. They, too, are incredibly solvent, but the strength of the balance sheet is merely a facade that conceals the decay within.

To forecast the future of a company by studying its financial statements only, without intimate knowledge of the personal capacity of those who constitute the management, is like prophesying the weather without knowing which way the wind is blowing. The balance sheet is the record of a corporation's past, not a guide to its future. The best of earnings statements may prove nothing but that the company still has momentum from what has gone before.

Human resources are far more significant for a corporation's future than physical assets, and to assume that because it is rich today it will be richer tomorrow is a *non sequitur*.

For many groups in our country, the future of a particular corporation is of tremendous importance. There is the investor who is trying to keep his capital both gainfully and safely employed, the professional investment analyst who advises others, and the financial commentator who writes for others. But there are also many more: executives who are planning mergers or acquisitions, men who may be considering management positions in a certain company, the annual crop of college graduates who are looking for jobs. Those among them who are wise have learned to give more weight to an informed evaluation of people than to an appraisal of visible values.

It was 1932 when the searing experience came which imposed the counting-house mentality on many of the men who today are still in man-

Now a special White House adviser on foreign economic policy, the author of this exclusive series on management folklore was formerly board chairman of Inland Steel, which he served as an executive for 31 years.

agement. They saw bank deposits frozen, receivables defaulted, and general paralysis spread throughout the business community. Cash was all that counted, and they determined never again to let their companies be caught without it. So they put security above daring and have bequeathed to their successors solvent, but moribund, institutions.

Nor is this weakness limited just to the comparison of locations within the United States.

Crisp and uninhibited reaching-out for new markets is now going forward on a world scale. Old companies that have stayed young, as well as those which—though fragile financially—have recaptured the daring of our ancestors, are now taking the plunge overseas. There lie the great new markets of the future.

The investor should never think of the balance sheet as anything more than one factor, among many, to be weighed. To begin with, it does not always give even a true picture of the past. It shows how much money has been spent, but not necessarily how wisely the capital has been used. It may, and usually does, represent imagination and bold thinking on the part of earlier leadership. Yet it may be merely the mausoleum in which their errors of judgment and their timidity have been interred.

Consider the location of plants, for example. Maybe the small group which first started the business lived in a particular area and understandably wanted to go on making their homes in the place of their birth. Conditions change, however. For a business to go on expanding in the old area through sheer inertia, instead of responding to new forces and recognizing altered circumstances, may be complete folly. Stubbornness is not always wisdom. The brick and mortar values as recorded on the books may be correct, but building new additions to old plants may reflect cowardice rather than courage. A critical survey may reveal that newer, competing companies have been building plants in what are now seen to be the right locations, and that they are steadily increaslng their share of the total business. Such young companies may have a less desirable ratio of assets to liabilities, yet their life expectancy can be quite superior. When the process goes far enough, the old and rich company suddenly finds with dismay that its liquidating value is all that it has left.

It has been our tradition, both individual and corporate, that success often stems from necessity. Complacency is its foe. The plain truth is that the entire economy of the free world is moving inevitably toward total integration, driven by forces which no one country can control or divert, let alone one man or one company. Those who, instead of leaping lustily into the struggle of world competition, continue to sit smugly in the counting house, looking comfortably to tariffs and quotas to safeguard their solvency, may suffer slow strangulation.

Yet a changing market pattern which is neither clearly seen nor courageously faced is not the only cause of senescence. Sources of supply change, too, and take a heavy toll in cost, though you might study the annual statement of a dying company indefinitely without discovering that this process had begun to affect its affairs. The finished product of one company is the incoming raw material for the next. If, in the chain of manufacture, one supplier is forced by economic circumstance either to abandon its operations altogether or to change location, all others in the sequence must make suitable adjustments. Whether they do that promptly and effectively depends on people.

The American steel industry, as it developed in the early part of this century, located its plants where it did because it drew iron ore from Minnesota and Michigan, transporting it down the Great Lakes. Now a very substantial part of the required ore must be brought in from such far-off points as Labrador, Sweden, Africa, and Venezuela, and all those earlier decisions have to be re-evaluated.

Nor does the current earnings statement constitute a safe index as to whether the corporation will be a happy ship for the future in terms of the vital personal relationships between executives in the management group. Outward appearances can be very deceptive. Two men who bear the deepest animosity toward each other can be skillful in maintaining the amenities. If, however, the vice-president in charge of operations and the financial officer are sharpening their knives for each other, and the president isn't man enough to knock their heads together, trouble lies ahead. Or if nepotism is rampant, with the boss determined to promote not only his son but his wife's younger brother, dangerous tensions exist which sooner or later will slow the company's progress.

Poor health is a similar hidden menace. If the chief medical officer knows that a key executive is ignoring a high-blood-pressure problem which could take him off the team without warning and the personnel officer knows that nothing is being done about training his successor, they possess dangerously pertinent information about the company's future.

And where is the financial seismograph that is sensitive enough to forecast the eruption of a major stockholders' row in an old company? The new muscle men who stalk stealthily

along the outer reaches of the stock market, ready to pounce on the unwary, seem to prefer rich but somnolent companies, those with a great past but doubtful future. Usually the first warning that comes to the investing public that the kill has been made is when the financial vultures start soaring overhead.

Another significant area where a company's financial statement offers no sure guide to its future is its competence in its own field of technology, when compared with that of its competitors. Research is the lifeblood of industry. Some companies steal new advances in technology, some borrow, some buy, but only those who consistently do their own research are a safe buy for the investor. Growth cannot be superimposed from the outside: It has to come from within, and to develop a superior research staff takes long, patient effort.

In industry, as in all other aspects of human affairs, people are more important than things. Yet in gaging the soundness of a business institution, we have no recognized procedures through which an outsider may form his own judgment as to the quality of the management.

We have certified public accountants who examine the books and reassure us that the securities which the company reports it holds actually do exist. We have no certified personnel inspectors who inventory the younger executives available to sustain the company's future, no certified public psychologists to measure the brain power and test the emotional stability of those now exercising leadership.

Often, in a particular corporation, there will be one man—and only one—who is widely known to the general public. Sometimes he and the company are so closely identified, both in his own mind and that of the outsider, that they are practically synonymous. He may be both extrovert and able, or just extrovert. If able, he may carry the whole show himself, giving little opportunity to those below him either to display or to develop talent—in which case his death or disability can bring disaster. On the other hand, if he is only mediocre as to talent, though articulate, he may nevertheless have instinctive insight into his own limitations, and so delegate responsibility that his very weakness permits a strong team to develop.

Quite often the strongest man in a management group, the one who is wisest in counsel and most resourceful in meeting the unexpected, is all but unknown outside the intimate inside circle because of his innate modesty and his studied habit of permitting his talents to find expression through the activities of others.

Certain it is that the annual report will give no help in distinguishing the prudent from the reckless among the officers, or the wise from the merely uninhibited. The names of all will be there, but not a statement as to their respective qualifications. You will find pictures of the new plant, but not of the new vice-president. Nor will you find any explanation of why he had to be hired from the outside instead of promoted from within.

Conceivably, however, the day may come in our surge toward more effective business techniques when a new professional group will come into being. Upon demand, they will perhaps survey objectively the human potential of a management group, and certify it to the public just as an accounting firm certifies the company's financial potential.

When that time comes, what will the practitioners of this new profession inquire into?

Surely they will search the records to determine the organization's reserves of people, just as the accountant searches the records to determine the reserves for plant replacement. They will want to know just who is next in line for each key post, and whether he is competent to assume a higher responsibility.

But an inventory of people in terms of their number in ratio to posts of responsibility would be only the first element in the inquiry. Far more important would be an appraisal of the total capacity of the entire management group in terms of leadership effectiveness.

How would this hypothetical new profession proceed to determine the quality of men? Sheer intellectual capacity could be tested with a fair degree of accuracy, if both the company and the individuals concerned would permit these future auditors of ability to make the same penetrating inquiries into intelligence as financial auditors now make into probity.

Yet by what system of tests could such professionals, no matter how highly trained, measure the vital but abstract quality of leadership?

There is the crux of the whole matter. Leadership, that intangible, hard-to-define something that sets some men apart, that blend of native talent and cultivated attributes, that radiant and inspiring gift that causes some men unerringly to choose the right and to give others faith that it is right, leadership—whether God-given or man-cultivated—holds the key to the future in the business world.

I am led to wonder, therefore, whether we are as far advanced in management methods and practices as we think. We concern ourselves so much with the question of financial solvency, and so little with that of human solvency.

Actually, a good balance sheet is like the foundation for a house. It is important, but nobody lives in it. Everything that counts happens above that level. END

America's Best-Managed Companies

A PRESIDENTS' PANEL REPORT

For the first time, the leaders of America's largest corporations rate their counterparts throughout industry. Here are the top 20 managements in the U.S.—and the reasons why they were chosen.

THE art and science of management are seldom analyzed by the men who know them best. Whether or not it is true that "he who can, does—he who cannot, teaches," there are few working leaders of U.S. industry in the ranks of business scholars and commentators. And although a top executive may sometimes publicly discuss the hallmarks of good management in general terms, he will seldom name names and set his own seal of approval on specific corporations.

Members of the DUN'S REVIEW Presidents' Panel have now broken this self-imposed silence. They have picked out the best-run companies in the U.S. and told exactly why they chose them. Analyzing the qualities they consider most essential—and those that detract from corporate success—they have defined the particular areas which call for management's closest attention. And they've drawn up a composite picture of the ideal American company management of the future.

The presidents on the Panel head 171 of the largest U.S. corporations, manufacturing everything from precision instruments to steel girders from borax to biscuits. The average Panel company has more than 10,000 employees in plants scattered around the nation and sells more than $185 million worth of goods each year.

Asked to select the best-managed companies in the United States, each chief executive listed three choices. Their selections were ranked on the basis of three votes for a first choice, two for a second and one for a third.

Together, the presidents name only 30 different companies as contenders for the management blue ribbon. On any rating system, outstanding honors must go to their first choice, E. I. du Pont de Nemours & Company. Fourteen per cent say Du Pont is the best-managed business in the nation, and a total of 40 per cent name the big chemical manufacturer among the top three.

Panel members also rank the managements of two other huge corporations—General Electric and General Motors—far above the other companies chosen. A third of the presidents say GE is among the three best-managed; a fourth select General Motors.

Not all are giants

More than ten per cent of the Panel members who took part in the study include International Business Machines, Minnesota Mining & Manufacturing, and the American Telephone and Telegraph Company, ranked in that order, as among the best-managed.

Of the top twenty corporations, all but two are among the largest 110 industrials in the country, and those two—compared to the rest of the twenty—are quite small. Interestingly enough, both manufacture electronics devices—along with other lines—and both are pioneers in their fields.

Cutler-Hammer, Inc., of Milwau-

By far the nation's best-managed companies in the eyes of the Panel presidents are these six giants, listed in order of the votes each received:

1. E. I. duPont de Nemours & Company
2. General Electric Company
3. General Motors Corp.
4. International Business Machines Corp.
5. Minnesota Mining & Manufacturing Company
6. American Telephone & Telegraph Company

Although they didn't match the showing of the six leaders, fourteen other companies received prominent mention:

- Eastman Kodak Company
- Procter & Gamble Company
- Standard Oil Company (N.J.)
- Firestone Tire & Rubber Company
- American Home Products Corp.
- Aluminum Company of America
- Cutler-Hammer, Inc.
- International Paper Company
- Texas Instruments, Inc.
- Armco Steel Corp.
- Ford Motor Company
- Inland Steel Company
- National Biscuit Company
- Texaco Inc.

Other companies named as the "best-managed" by at least one president were: Armstrong Cork Company, Champion Paper & Fibre Company, Fafnir Bearing Company, Georgia-Pacific Corp., Kimberly-Clark Corp., Norton Company, R. J. Reynolds Tobacco Company, A. O. Smith Corp., Sun Oil Company, U. S. Gypsum Company.

kee, with sales in 1959 of $114 million, takes thirteenth place, putting its management on the same level as Ford, Texaco, Inc., and the National Biscuit Company. Texas Instruments Incorporated ranks on the same level. With recent expansion and a merger TI's sales more than doubled last year, when they reached $193 million.

Up to a point, most of the Panel presidents subscribe to Emerson's dictum that "an institution is the lengthened shadow of one man." A third of the chief executives note that the companies they consider best-managed follow a distinct pattern: Each was fashioned by a brilliant leader whose ideas, abilities, and energy primed the company's development and growth.

"All three of the companies I selected," says President James A. Taylor of Standard Screw Company, "were dominated by individuals in the period of their early development. This, however, is not a characteristic of the companies today."

Taylor's remark about present leadership is echoed by many presidents. In the words of A. C. Gilbert, Jr., head of the A. C. Gilbert Company: "Generally great men found great companies, but then teamwork must carry the companies on."

Another third of the industrial leaders say that, to some degree at least, the best-managed companies are still under the dominant influence of one man. "All the companies I have selected have strong chief executives," notes President Ellis Leach of Collins & Aikman Corp., "although each is backed up by a strong and active board of directors." Says Rea I. Hahn, chief of the Walker Manufacturing Company: "The opinions and ideas of the man at the top are reflected throughout the organization, not only in its attitudes but in the type of people it hires."

His influence lingers

Even the presidents who say the companies they have chosen are not dominated by one man note that present management often carries on the philosophies, policies, and ideas of an earlier leader.

There are a few dissenters who oppose one-man domination in any form, but most of the chief executives who have singled out companies with "democratic" managements agree with P. B. Wishart, head of the Minneapolis-Honeywell Regulator Company: "The domination of one man is less and less as the years go on," he says, "but the companies still retain the drive that comes from an inspired leader." "The best-managed companies I've selected are influenced by the founders," reports H. I. Romnes, head of Western Electric Company, Inc., "although their continuing success mainly reflects good management teams."

Many of the chief executives point out that the relative effectiveness of personal versus team management may depend on the size of the company and its stage of growth. "Autocratic management can be effective in small companies" says President Clyde H. Reeme of Udylite Corp. "There must be real teamwork in larger companies." President W. H. Feldmann of the Worthington Corp. concedes that autocratic management may be very efficient. "Yet," he says, "because of the problems of succession, for large companies group management is essentially best over the long term."

Although 50 per cent of the chief executives support "autocratic" management as opposed to purely democratic, time and again they specify that "the autocrat must listen to the top management group he leads." In an increasingly complex economy, they believe that the strongest chief executive must rely more than ever before on his staff and supporting groups. Thus the presidents say, in effect, that the lines between the two types of management are becoming blurred: The best autocrat leads democratically, and the best democratic management develops responsible, decisive leaders.

Even presidents who favor democratic management often point out that the administrative chief must bear the burden of responsibility. A few of the Panel members believe the team itself should make the decisions, but the overwhelming majority support Harold F. Falk's view: "The function of committees," says the head of the Falk Corp., "is to gather information, explore all viewpoints, and *recommend* action."

Bellwethers of U.S. industry

What action are the Panel's best-managed companies taking that sets them off from the mass of American businesses? They have turned their sights to the future, for one thing. They are putting into execution today the programs that will insure corporate strength tomorrow.

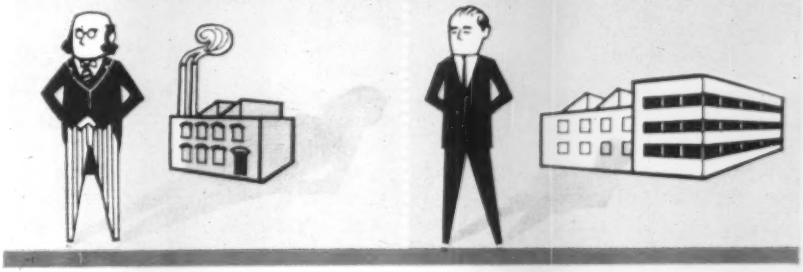
Twenty-five per cent of the Panel presidents specifically state that the companies they've cited are working to insure a supply of aggressive, intelligent executives. Twenty-four per cent note the companies they've chosen are strong on long-range planning; the same percentage of Panel members think executive emphasis on research and development puts the best-managed companies head and shoulders above the rest.

Good organizational structure, the ability to develop and shift product lines, and strong, imaginative marketing are other attributes which mark the most efficient top managements.

The need for long-range planning, coupled with good organization and marketing, is reflected in the Panel

The Shortening Shadow

When Ralph Waldo Emerson wrote that "an institution is the lengthened shadow of one man," he wasn't thinking of the complexities of modern business management. Yet to more than a third of the DUN'S REVIEW Panel presidents, his statement holds true of today's best-managed companies. These top executives outnumber those who think sound modern management owes more to teamwork. The remaining presidents make a significant qualification: To build a successful company, they say, requires a dominant individual—but its later growth demands a strong team of men who cast far shorter shadows.



Eight Keys to Success in the '60's

What should be management's top-priority concerns today? Marketing, organizational planning, and research, say the Panel presidents. These three areas were heavily emphasized when chief executives named the factors they consider most crucial to future company success. Here's how their replies stack up when weighed on a scale of 100:

MARKETING STRATEGY **19**

ORGANIZATIONAL PLANNING **17**

RESEARCH & DEVELOPMENT **17**

PRODUCTION TECHNIQUES **14**

FINANCIAL MANAGEMENT **12**

PERSONNEL MANAGEMENT **8**

LABOR RELATIONS **8**

PUBLIC RELATIONS **5**

estimate of the areas most crucial for management today. Fifty or even 25 years ago, the chief executives of America's leading corporations undoubtedly would have labeled some aspect of production as management's major worry. Today, the chief executives put production techniques comparatively far down.

They were asked to rate eight general areas of management in order of their importance for company success, and their answers were scored on the basis of eight points for an area ranked most important, seven for an area ranked second, and so forth.

On this weighted scale (see box), the Panel presidents as a group rank marketing strategy, then organizational planning, and then research and development as the three most crucial areas for company success. Twenty-five per cent of the corporation heads consider marketing strategy the most important, and 75 per cent place it among the three most important areas.

When American management fails, say the presidents, it is in the kind of planning that concerns these crucial areas. Forty per cent of the industrial leaders believe the greatest weakness of management today is the failure to plan or forecast adequately. Twenty-three per cent hold it is the inability to change, to remain flexible enough to meet the problems either of the present or the future.

Says the president of a major consumer products company: "The most common weakness of American management today is too little advance planning."

"Perhaps the most prevalent weakness," thinks J. Peter Grace, president of W. R. Grace & Company, "is the fear of taking chances and making fundamental changes." Other presidents think that American management is most weak in failing to define duties and responsibilities, to make sure of its management depth, or to become aware of "political changes and facts."

Certainly, in the presidents' view, these failures are unnecessary. Two-thirds of them believe the superior management of the companies they consider best managed follows an approach that other organizations could easily adopt.

"In general," says President Horace Y. Bassett of Calumet & Hecla, Inc., "I believe that superior managements exhibit a pattern which would work as well in other organizations. But the pattern would have to be tailored to fit each specific company."

Many of the chief executives defined the management approach that marks the best-managed companies. Generally, it shows—in the words of one president—"a proper balance of centralization and decentralization."

James L. Sewell, head of Delhi-Taylor Oil Corp., notes that the best-managed companies emphasize "centralized policy control, decentralized operational control, and complete accountability for performance." The chief executive of a big appliance manufacturing company speaks highly of General Electric's approach, which "balances executive guidance between current business and future planning, and delegates direction of operations and measurement of performance to action levels."

A number of chief executives outlined a pattern of good management that comprises long-range planning, establishment of policies and programs to implement objectives, consistently good communications within management, plus continuing review. Other presidents emphasize the selection, development, and direction of a team of key people working toward a well-understood goal.

Because of future economic and technological innovations, the presidents believe, all companies that are to survive must concentrate even more on long-range planning, on developing flexibility, and on training top managers. The changes that come will be ones of degree and emphasis, they prophesy, rather than any switch to radically new approaches.

One chief executive believes that "there will be much greater need to forecast trends in all management fields and to develop plans to meet all possible contingencies."

Several presidents point out that scientific technology is advancing faster than management techniques. Management must "develop a keener appreciation and sense of change, and be ready to alter programs to accommodate the rapid changes of the future," cautions President Wade N. Harris of the Midland-Ross Corp.

"Top executives will have to be relieved to a greater extent from current problems," says the chief of a big industrial firm. "They must concentrate on developing new sources for profitable corporate growth."

The presidents of the Panel offer no sure-fire prescription for good management when they outline the best approaches to winning corporate success. But taken as a whole, their opinions suggest a composite picture of the well-managed American corporation that is prospering today and will continue to flourish in the years ahead.

Portrait of success

What is this hypothetical company like? No matter what its size or age, it has a top management that is strong on long-range planning. It has management in depth, a well-defined organizational structure, with clear delegation of authority and responsibility. Within the company, there is centralized policy control and decentralized operational control. Management is flexible in its attitudes, able to shift product lines to meet new demands, ready to back research, aggressive and imaginative in capturing markets and satisfying customers. Above all, this ideal American company is working now to develop its future management—the capable, decisive men who can meet the coming challenges.

—JOSEPH R. MARSHALL

Office: Productivity:

New Path to Profits

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Management Tackles Office Productivity

There's room for a 50 per cent increase in office efficiency, the experts say. What are today's top executives doing to sharpen clerical operations, cut office costs, and control the paperwork flood?

This Special Report to Management was prepared under the direction of Thomas Kenny, assisted by Joseph R. Marshall

DESPITE the tremendous expansion of the clerical workforce, the job to be done in company offices manages to grow even faster. Stepped-up mechanization, continual improvement in systems and procedures, and more effective management of personnel are the main dikes that management is now constructing against the paperwork flood. Without them, it would be swamped by a sea of invoices, sales orders, and production tickets—not to mention interoffice memos on the need to reduce paperwork costs.

Many companies which decide to develop positive programs of action discover that perhaps the most pervasive reason for the lag in office productivity is top management's own indifference to the mechanics and procedures of paperwork. Very few from the ranks of office management have reached the top rungs of the corporate ladder. Since most high-ranking managers are either sales-, finance-, or production-oriented, they have long looked upon paperwork only as an appendage of these other areas. Not until two important technological developments in office equipment—the computer and integrated data processing—appeared a few years ago did management begin to move in on office operations as an area worthy of top-level attention.

Searching out the specific reasons for the continuing slow pace of office production, companies which have investigated the problem pinpoint:

- The shortage of clerical workers in many parts of the nation, which results in high turnover and the absence of a real incentive for workers to boost their output to hold on to their jobs
- Ineffective supervision of clerical employees as the result of poor organization or lack of top management support of office management
- Neglect of engineering techniques that have brought big gains in plant productivity — work measurement, performance standards, work flow analysis, work simplification, among others
- Lack of coordination among various departments and the splintering of related paperwork activities throughout the organization. Many

NATIONAL *Records Management Council experts analyze the paperwork problem.*

individual paper-processing departments work only with their limited departmental objectives in mind, rather than for coordinated companywide goals.

Where they exist, systems and methods staffs must consequently spend their time attempting to put out brushfires in individual departments, instead of developing coordinated systems to move information smoothly and quickly throughout the entire company.

The new DUN'S REVIEW survey of 275 companies (for details, see page 44) reveals the toughest trouble spots in today's office and shows which factors are clearly hampering productivity. When asked to name the three most common sources of waste and inefficiency, the 191 manufacturers covered in the survey gave a wide range of replies.

Deficiencies in supervision

Most, however, were related to ineffective supervision, which was specifically mentioned by 64 companies. Thirty-one others listed the poor training of office workers, and 30 felt that employees are allowed to spend too much time away from their desks. Thirteen pointed to poor scheduling of work. Seven named poor selection methods, and another seven overstaffing, as the major areas of waste.

Forty-three called weak systems and procedures the main culprit. To 38 others, duplication of the same work (a clear sign of poor systems and procedures) causes the most waste. Lack of work performance standards was mentioned by 23 others. Nine felt that misuse of equipment is a drag on efficiency; seven others said that failure to obtain new equipment is a serious source of wasted dollars.

Twenty-eight respondents listed unnecessary reports, and 27 considered the "dilatory" attitude of most clerical workers as an obstacle to efficiency.

Despite the big job yet to be done, 152 of the 191 manufacturing companies in the survey were able to increase the efficiency of their office operations in recent months.

Seventy-one of the 191 companies reporting improvements have been able to pinpoint the dollar savings that resulted in office operations during the past year. A third of the 33 companies in the under $5 million sales group have been able to say exactly how much they've saved since revamping their office operations, compared to half of the 48 companies with sales of $100 million and over.

The improvements resulted in cost reductions that ranged from 1 to 50 per cent of total office expenses; the median cost reduction was 6 per cent. Generally, the smaller companies reported larger relative cost reductions than did the giant companies. But one company with $32 million sales reported a savings of $200,000—at today's profit rate, it would have to increase sales by $4 million to add this much money to profits.

There are many advantages in office improvements besides the money saved. Some companies have come up with improvements in processing paperwork quickly that involve not only themselves but customers as well (see page 93). The importance of boosting paperwork productivity is pointed up by the fact that such improvements are now being included in the companies' sales pitch to customers and prospects.

Management is trying many approaches in its campaign for more efficient office operations. Most of the 152 manufacturers who managed to boost office productivity in recent months attribute the gains to stepped-up mechanization.

They are using all manner of equipment, not just the big innovation that has held the spotlight in recent years —the electronic computer. They cite integrated data processing equipment, tabulating equipment, accounting machines, dictating equipment, and copying machines among others which brought such noticeable gains in efficiency as reduced clerical manhours, fewer errors, fresher information, and faster processing of orders.

Shipshape for mechanization

Many of the surveyed manufacturers give the credit for recent increases in office efficiency to better systems. Systems improvement, of course, goes hand in hand with increased mechanization, for without a prior analysis and cleanup of systems and procedures, a company's changeover to mechanization would simply result in high-speed disorder.

Another major effort that has brought higher productivity to many of the surveyed companies is also linked closely to systems improvement: A number made important headway by achieving closer coordination of various operating departments and consolidating splintered activities.

Office improvement tools such as work measurement and simplification are coming into increased use in the drive to make office people more productive (see page 52).

Among the 191 manufacturing companies, 117 now have continuous programs for forms simplification and control. A lesser number—95—have a continuing program for work simplification, and 94 have programs for records management. Work-flow analysis programs have been adopted by 77, but only 29 have work measurement programs.

The use of each of these five techniques appears much more common among large companies than among small. For instance, only a fourth of the manufacturers with sales under $5 million have records management programs, compared to three-quarters of the companies with sales over $100 million. Work measurement programs, however, are not much more prevalent among large manufacturers than among small.

Although the reductions in office expenses reported by the surveyed manufacturers resulted from a wide variety of measures and techniques, perhaps it is significant that the companies with work measurement programs reported an average cost reduction that was nearly twice as large as that of companies without such programs.

Experience shows that work measurement programs usually increase clerical productivity about one-third. When combined with incentive plans for employees, the programs have boosted clerical pay by about 25 per cent.

A tangible—and unusual—bit of evidence of what can be accomplished by boosting clerical productivity is the new office building of the State Mutual Life Assurance Company of America in Worcester, Mass. The multi-million-dollar building will be paid for entirely by savings resulting from a work measurement program.

One of the clearest indications that a thorough job to improve productivity is needed in most offices is the fact that one of the major office equipment manufacturing companies was able to achieve a reduction of 30 per cent in its own office costs during

Diagnosing Office Ills

Here's how some management men size up the areas of waste and inefficiency in office operations throughout industry—not necessarily in their own companies:

"Improperly trained office machine operators are improperly supervised and work without performance standards."—*Controller, Midwest steel producer.*

"In addition to the overlapping of functions between departments, there's resistance to reducing staffs when work declines, and an insistence on keeping enough people to handle the peak loads."—*Assistant controller, Fruehauf Trailer Company.*

"Management often fails to realize that office operations are as much a controllable cost as any other part of the business. So it endures marginal employees and unnecessary paperwork."—*Controller, Interstate Container Corp.*

"There's frequent failure to define clearly the specific functions of each job. This allows extraneous and unnecessary operations, which may even be duplicated somewhere else in the company, to creep in. Many people keep large quantities of information on the basis of possible rather than actual need. And there's entirely too much copying and re-copying of source data from one operation to the next."—*M. E. Siemers, manager of systems and procedures, Kaiser Aluminum and Chemical Corp.*

About the New Survey

This latest DUN'S REVIEW survey of office operations is based on detailed, four-page questionnaires returned by 275 companies. Most of the replies—191—were from manufacturers in these size groups:

Annual Sales	Number of Companies
Under $5 million	33
$5 million to $10 million	35
$10,000,001 to $25 million	28
$25,000,001 to $50 million	22
$50,000,001 to $100 million	19
Over $100 million	48

(Six manufacturers whose sales data are not available also sent in replies.)

Survey respondents are in all the twenty major industry groups in the Department of Commerce Standard Industrial Classification. Among them were 23 food companies, 21 manufacturers of electrical machinery and 21 of non-electrical machinery, 19 chemical companies, 18 manufacturers of fabricated metal products, 14 producers of primary metal products, 12 makers of transportation equipment, 11 textile companies, and 11 manufacturers of instruments and related products.

Controllers answered for 105 of the 191 manufacturing companies. Replies also came from assistant controllers, vice-presidents, systems managers, office managers, treasurers, and one president.

Among the 84 non-manufacturing companies in the survey were 18 insurance companies, 13 banks, 12 utilities, 7 railroads, 8 wholesalers, 7 large retailers, and 4 financial service companies.

the past year. This was done by improving the programs for work flow analysis and work simplification, modernization of the office layout, and the addition of new equipment.

Now, more than ever, management is watching for opportunities to mechanize and put the increasingly popular new equipment to work. Typical of the progress being made by many medium-size companies in boosting office efficiency was that accomplished in recent months at AMP Incorporated, a Harrisburg, Pa., manufacturer of electrical parts. The company upped office efficiency by reorganizing departments to improve work flow and is now making increased use of integrated data processing equipment to tie order entry, sales analysis, and inventory control into one semi-automatic operation.

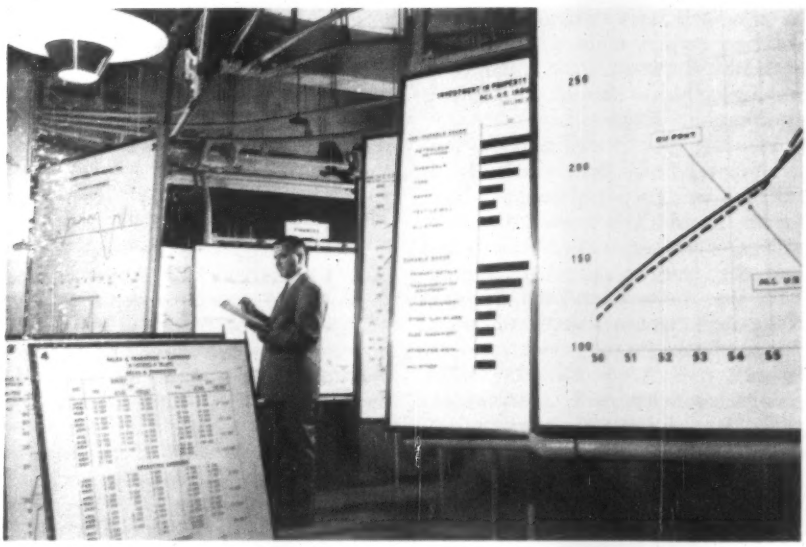
Mechanization does more than speed up many operations and reduce errors. Companies are finding that it is the quickest way to reduce the number of man-hours needed for particular operations. Simply by installing a pneumatic tube system, the Gulf Oil Corp., Pittsburgh, was able to reduce its staff of messengers by nearly two-thirds.

There is also increased management interest in the use of direct incentive payments to boost clerical output, although currently only about 3 per cent of all office workers are employed under incentive plans.

One of the broadest attacks on lagging office productivity is being made on an entirely new front: the total flow of information throughout the organization (see below). Meanwhile, however, management finds that diligent application of the traditional tools can do much to lift office productivity above the widely lamented level of half-good-enough.—T.K.

To get the information it needs, management is revamping the office. Sparked by data processing, the reorganization provides management by exception and permits management by objectives.

New Look in Office Organization



NERVE CENTER: *E. I. du Pont de Nemours & Company funnels information for top management into its chart room where data on past, current, and projected operations are maintained in up-to-the-minute graphic form.*

FOR more than a decade, the forces of change have been working in the American office. Now these forces are about to explode in an organizational shakeup that may change the office as much as the assembly line changed the factory.

For the first time in history, corporations are examining the office not by function or service but in terms of how and when it produces all the information that management needs in order to manage.

A number of companies like Chrysler, Shell Oil, Westinghouse, Lockheed Aircraft, and Gillette—which has an integrated program for all phases of paperwork—are well into this examination. They have set out to reorganize the office, and the facts of competition, if nothing else, are forcing other corporations to do the same.

Frank M. Knox, President, Frank M. Knox & Company: "Most companies today don't realize there is a real problem in recognizing top management's information needs."

A. L. Baumann, Jr., Assistant Comptroller, Michigan Bell Telephone Company: "There's nothing wrong with paperwork. The question is rather 'what goes on the paper.'"

The problems of working in an increasingly complex economy have flooded the office with mounds of papers and thousands of reports and forms. The normal manufacturing company deals with 200 to 250 different elements of information, but it may use 500, 1,000, or 1,500 different forms to handle them. For larger companies, the situation is even more serious. Alex W. Rathe, professor of management at New York University, estimates that a company the size of Chrysler handles about a million different pieces of paper every day.

Meanwhile, the cost of handling this growing mass of data has gone up steadily. So has the number of clerical people needed to process it.

Today there are twice as many office workers as there were in 1940. During the last 50 years, as industrial production increased 700 per cent, the number of factory workers increased 85 per cent—and the number of office workers 450 per cent.

These office workers are earning more than ever before, too (see page 52), yet their productivity has not risen with their salaries.

Uphill fight for efficiency

Alfred J. Apgar, manager of methods planning and data processing at the Clark Equipment Company, told a recent DUN'S REVIEW Editorial Roundtable: "I think just about everybody in the field realizes that most clerical people are not doing any more than about half of what they should be doing right now." Few experts would disagree with him.

Among the most effective ways of attacking clerical inefficiency has been mechanization. For instance, in Schenectady, N.Y., General Electric used to have one payroll clerk handle the affairs of 100 workers. Minimum equipment now permits that one clerk, despite a tremendously complex pay structure, to handle the affairs of 155 employees. It is straightforward clerical cost savings like this that have brought machines into the nation's offices.

While fighting the engulfing flood of information and rising clerical costs, management—at the same time—must try to pluck out the information it needs to preview, predict, and plan. Now, for the first time, the same machines that process the information give top management and office and administrative managers real control over the facts. Such machines have been adopted widely and quickly. Since 1951, when the U.S. Bureau of Census installed the first large-scale electronic data processing center, more than 6,000 digital computer systems have come into use, most of them to serve specific functions.

In addition, integrated data processing—the linking of traditional equipment like billing, typing, and accounting machines through the use of punched paper tape—is being installed by many smaller companies to cut clerical costs as well as integrate information.

In using these tools, and particularly in adapting data efficiently to machine use, corporations have been forced to restudy just what data they collect, where they collect it, why and how they use it. Although this restudy has been stimulated by data processing machines and computers, the machines are not essential to it. In fact, says A. V. Simpson, office procedures department, General Electric, "the machine has been a catalyst."

But it is the computer which has led companies to think of the office in terms of a flow of information, in which all information coming to the office is regarded as part of a total system, is focused into one area, and works its way upward to provide the reduced, condensed, or special knowledge needed only by top management.

"We cannot relieve the top executive of his burden of paper," says J. W. Schnackel, vice-president and general manager of Remington Rand Univac, "unless we coordinate, combine, redesign, and refine the entire information flow."

Information must be comparable, timely, and efficiently produced. A recent study by the computer and automation group of Philco Corp. turned up some all-too-typical inefficiencies in ordinary information handling. The group found that in the Missilmatic Jet Products Company, a corporation which grosses about $20 million a year, four variations of a single record—employee wages—were being kept in four different departments. The accounting department, at the same time, was also keeping its punched-card records on the same subject.

The wheat from the chaff

The recent DUN'S REVIEW survey of 191 manufacturing companies (see page 44 for details) reveals that 68 per cent have been making special reappraisals to determine the specific operating information top management needs. This examination is going on in companies of all sizes.

Because paperwork and forms are the means by which information flows through the office, much of the reappraisal has been in terms of controlling them. In the words of Frank M. Knox, president of Frank M. Knox & Company, management consultants:

Alfred J. Apgar, Manager, Methods Planning & Data Processing, Clark Equipment Company: "By 1970 we may have information transmitted by sound rather than paper."

William H. Seaman, President, Seaman & Company: "An administrative vice-president may be needed to keep an eye on the information system and how well it functions."

"Organizing for control must include knowing your forms, reports, and records. They're involved in the whole shooting match."

There are many ways of analyzing information through forms control. Under the direction of R. V. Searson, vice-president and controller, the Brunswick Corp. had all the 700-odd reports prepared in the home office or in divisions for home office use collected in one room. Top executives had to sign for each report they felt essential to their operation. Other companies attack the same problem of finding out what information is really essential by pricing all existing reports and any new report requested. The individual who gets the report must pay the freight.

Another method of analyzing the information system is to work on the type of documents used. William Zechel, product manager, Controlled Punch Forms, UARCO, breaks down business documents into three kinds: working, historic, and decision-making.

In analyzing its information control, Michigan Bell deliberately set out to avoid the old, segmented, functional office groups. "We approached the problem of analysis," says A. L. Baumann, Jr., assistant controller, "by taking all clerical operations in the business, dividing them into twelve major fields, and analyzing them. This is an approach that gets you away from historic organization, which tends just to multiply its own work as it goes along. At the same time, it keeps you from picking something out just because you think it is a field that will lend itself to improvement."

A time of change

Three-fourths of the surveyed manufacturers who have recently reappraised their information needs have already taken specific steps to improve information. About half of them said they have either made or are planning major changes in forms, reports, or equipment. Thirty mentioned reorganization of their entire systems, thirteen said they had reorganized office operations, and four specifically mentioned management by exception.

Manchester Knitted Fashions, Inc., Manchester, N.H., has sought to improve its information flow through continuous programs for forms simplification, work flow analysis, work simplification, work measurement, and records management.

E. Starke Farley, vice-president of the Richmond Engineering Company, Inc., Richmond, Va., reports: "We have eliminated and condensed over 50 per cent of our reports and installed an IBM computer." Time and again, controllers speak of new installation or expanded use of electronic or other equipment. Says Robert B. Wirth, division controller, Pfaudler Division of Pfaudler Permutit Inc., Rochester, N.Y., "Eighteen months ago we installed an IBM 650 computer. Many reports have been replaced or supplemented. We have instituted a system of reporting by exception. We now measure performance based on return on assets employed. We have decentralized authority and responsibility and centralized some accounting functions."

Many corporations have been wiping out departments or combining them with others. Fifty-five per cent of the manufacturing companies surveyed by DUN'S REVIEW reveal they are making such major changes in their offices.

This reorganization does not involve accounting alone. The manufacturers report that accounting, payroll, billing, inventory, production planning, and control departments have been about equally affected.

Ingersoll-Humphreys Division of Borg-Warner Corp. has transferred order entry, billing, and production control to accounting. Pepperell Manufacturing Company now has accounting and accounts payable and receivable working closely with the tabulating department. Al Peirce Lumber Company of Coos Bay, Ore., is working on linking all departments. Reports Kenneth L. Lewis, controller, "We have tried to erase all definite department lines."

At the same time that they've been eliminating departments and wiping out departmental lines, companies have also been developing new systems to tie the whole office operation into one integrated whole.

Three out of five manufacturing companies surveyed report they have adopted one new system or another to cope with the information problem. Kawneer Company of Niles, Mich., has a massive integration project under way. Richard E. Hale, manager of systems and procedures, reports this includes a new parts numbering system and new order writing, billing, stock control, and status systems.

"Under our computer system," reports R. W. Weikel, comptroller, Fram Corp., East Providence, R.I., "all reports will flow from the same source data."

Departments for efficiency

Asked what new departments they have established in the last few years specifically to improve efficiency of office operations, one-fourth—or about 50—of the manufacturing companies mention systems, methods, and procedures departments. Twenty-two companies mention new data processing or tabulating departments, and ten cite planning departments.

Along with installation of new systems, computer, and other departments has come the upgrading of the

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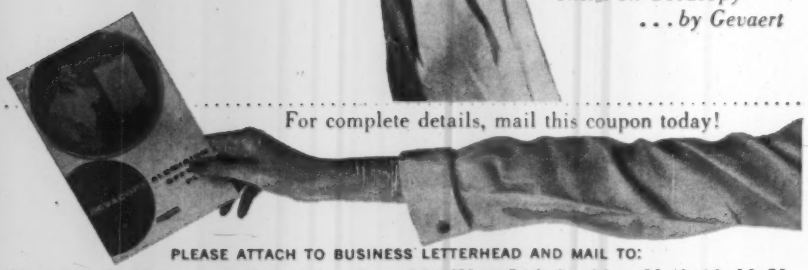

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NAME ..... TITLE .....

old office manager. In many companies his duties have been broadened and he now acts as overseer of the information flow.

Companies like Latex (see page 99) which are actually working towards a centralized information hub stress the distinction between those who use the information and those who merely handle it. The users are the functioning executives in various departments and at the top level. In charge of the handlers are "information managers," who may be administrative vice-presidents responsible for all office operations in the corporation and interested in the over-all information flow rather than the necessity of a particular function.

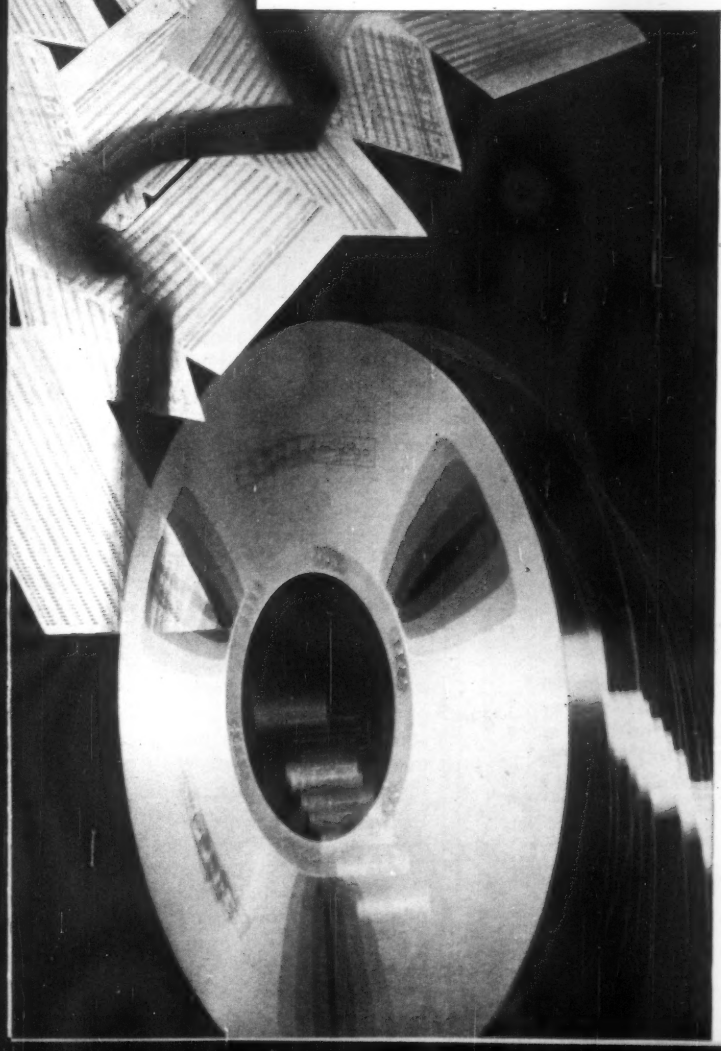
The payoff in this great reorganization has been big for some companies —both in dollars and in new information. The Shell Oil Company fifteen years ago set out on a campaign to control forms and reorganize systems. Over a five-year period, the huge corporation eliminated a million pages of forms—about 15 per cent of the total. That amounted to a dollar savings of about $250,000 a year, a total of $25 million over the last ten years. Company after company can cite similar specific clerical savings through use of forms control and installation of machine data processing.

But the money saved is not the main advantage. In the words of W. McGeary, vice-president of Leahy & Company, consultants: "The real gain that we get from the use of new equipment is the ability to do things that we could not do practically any other way."

The right reports

What does a centralized information flow provide? It means a minimum number of original reports processed with a minimum amount of rehandling. All data within the company are related to the same time scale. Different units reported—production units, for example—are related to other units, such as working hours. Information is compiled on a current basis and can be compared easily to

World's *fastest* sorting system



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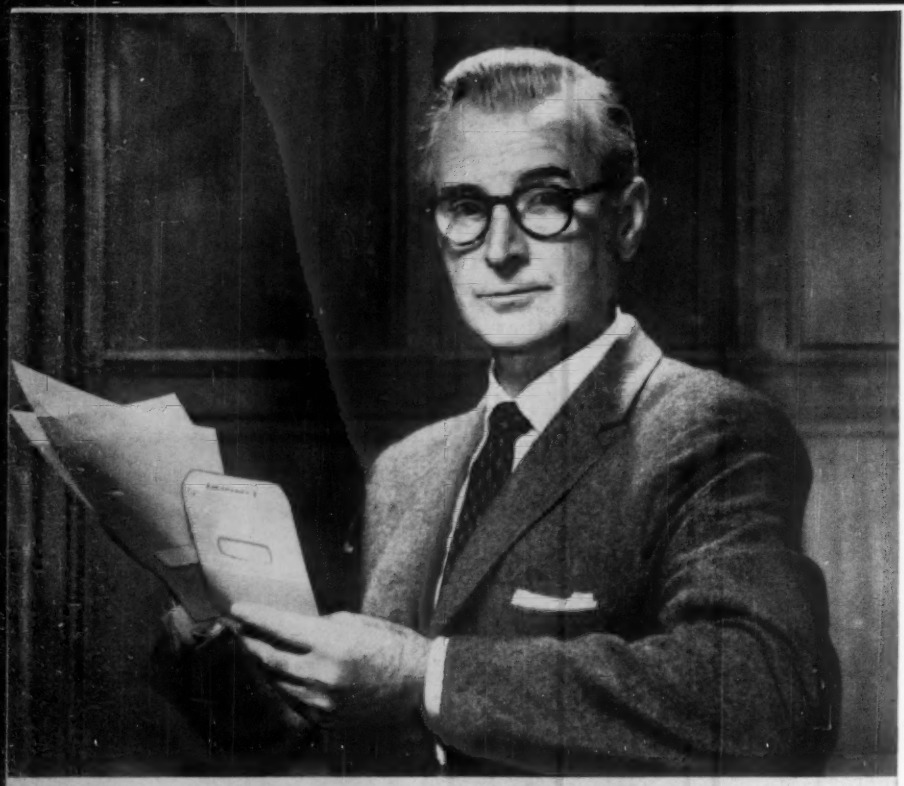
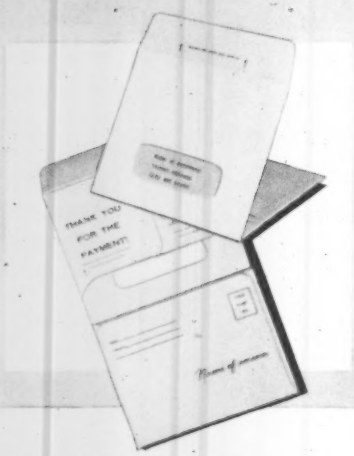


Executive with a problem found the answer in a U.S.E. Special Duty Envelope

Personal loan companies have found that the self-addressed return envelope encourages promptness and insures accuracy in the mailing of installment payments. U. S. E. developed "two envelopes in one": eliminated addressing, simplified inventory, reduced costs . . . Account book is slipped into one of these envelopes so that the borrower's name and address, already typed on the cover, appears in the address window. Return envelope is used to mail the book and payment back to the company.



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objectives and operating norms.

Office reorganization, however, need not be limited to changes that work toward an information flow. Seeking greater efficiency in the face of mounting clerical costs, corporations have set up special centralized office services departments, stenographic pools, and dictating centers, as well.

In studying its office organization, Eastman Kodak found mail readers in four different places in one office, messengers in half a dozen places, outgoing mail handled in various spots, files scattered, stenographers who spent a good part of each day just waiting for work. Kodak then set up an office services department for its Rochester headquarters, which has about 3,000 sales, advertising, and other general workers. The new department now buys all office equipment, does work measurement studies, provides central transcription services, buys stationery, and fills other office needs.

Centralizing of stenographer, typist, calculating, machine operating, and other services, says Arthur Waites, systems analyst of Imperial Oil Ltd., Toronto, can bring many distinct advantages. Personnel—particularly stenographers—can be reduced in number because they have less idle time. Centralized service provides better supervision, more flexibility to handle rush work, greater use of equipment, more comprehensive training of employees, and easier measurement of work.

Centralized services

Of the companies DUN'S REVIEW asked to cite new departments, five specifically mention office services departments and four say they have installed stenographic pools. One large manufacturer reports, "We have set up an administrative department to handle systems and procedures, data processing, and other services."

All of this reorganization is aimed at improving the efficiency of the office and getting maximum use of the information it produces. The big

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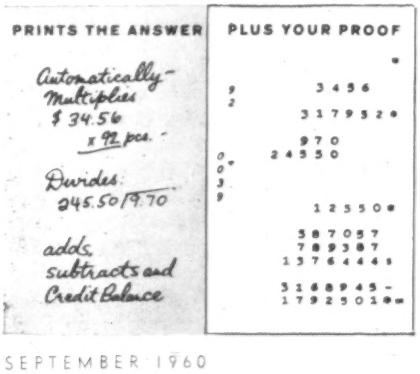

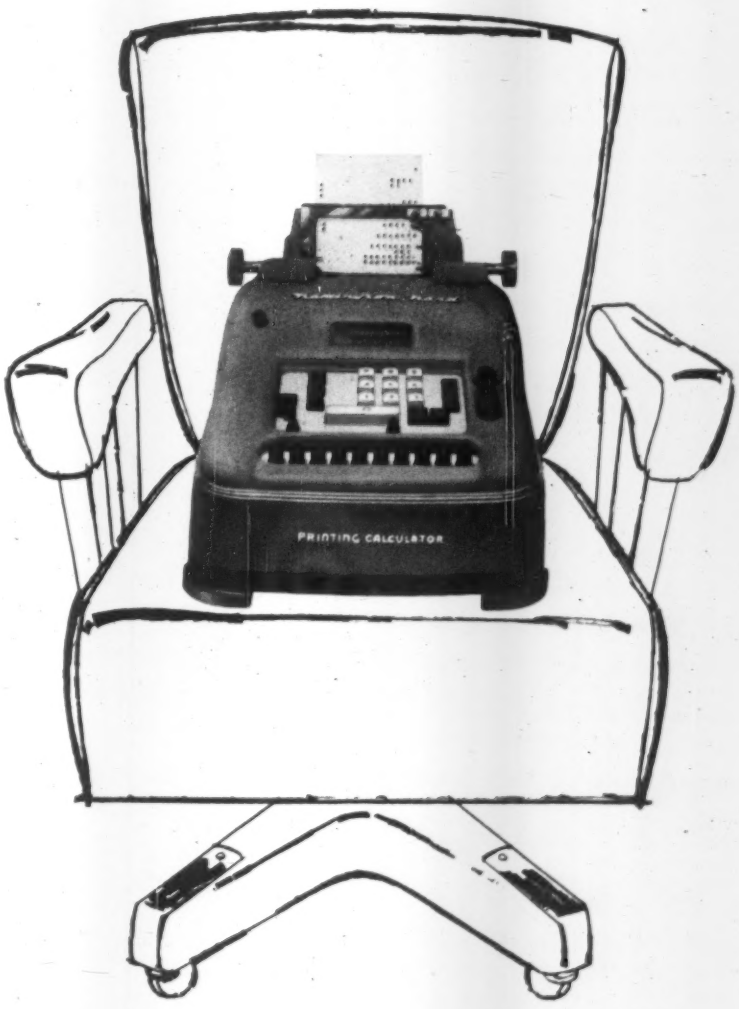

The "99" Calculator

by **Remington Rand**

DIVISION OF SPERRY RAND CORPORATION

changes may be based on machines and computers. It is management, however, that must bring them about. By 1975, American industry probably will be serving some 275 million people with a national income estimated at more than $800 billion. Management has made great progress in improving its manufacturing productivity. It has made little progress in handling the information needed to manage the business.

Too many companies are not yet conscious of the problem. Organizing for information, says one enthusiastic EDP man who is also a top manager, is the big task for office administration today. —J.R.M.

From New York to Los Angeles, from Baton Rouge to Boston, companies plagued by rising clerical costs and sagging productivity are engaged in a mighty effort to repeal Parkinson's law, which decrees: "Work expands to fill the time available for its completion."

Making Office People More Productive

THERE'S little doubt that the problem of controlling the largest single cost of office operations—clerical salaries—will bulk even larger in the years ahead. Getting employees to do efficient work for their money is now a major concern of top management.

Companies in all sections of the country are making special efforts to improve clerical output. Not only are office workers expected to process more paperwork. Increasingly, they're expected to "work smarter" as well.

Along with the development of better systems and more mechanization, most of the 275 companies surveyed by DUN'S REVIEW (see page 44 for survey details) are now putting greater stress on:

- work measurement techniques
- job descriptions
- use of clerical procedure manuals
- tighter scheduling of work.

By these and other innovations, they aim to prune away all but the absolutely essential clerical chores. The surveyed companies report that they are laying greater stress on better supervision, direct incentives, more thorough training, and more reliable testing, as well as on improving the office environment itself in order to increase efficiency. They are also making more efficient use of the clerical work force by introducing greater flexibility in temporary interdepartmental transfers of personnel.

At the Miller Brewing Company, Milwaukee, management is combin-

Homer J. Merchant, Vice President-Sales Manager, United Air Lines

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ing clerical functions and positions, establishing work pools, and moving steadily toward more mechanization. The objective is to distribute the work load smoothly and to achieve higher, more consistent output per employee by smoothing out peaks and valleys in the workload.

"We are making special efforts to eliminate work interruptions," reports the controller of a Midwestern office equipment manufacturing company. He says: "We are leveling out heavy work loads through interdepartmental coordination, analyzing employee production records, and checking work more closely for quality."

Like many other companies, the Philco Corp., Philadelphia, is shifting routine clerical chores over to machines, thus relieving the clerical force to handle exceptions to the new routine. Philco, again like many others, is taking a hard look at its currently decentralized clerical operations and may set up centralized clerical service groups.

Companies that have pulled splintered clerical forces together report important savings from the application of work-measurement standards, greater utilization of equipment, avoidance of wasteful duplication of work, and more flexibility.

The result of these and other management efforts to wring out the waste and chop the overlapping chores is not necessarily the wholesale firings that employees fear. As one controller points out: "Since our company is growing, it's not a question of reducing the number of people. We just get more work done with the same staff."

By the numbers

A major New York food company reports that it soon will save important chunks of clerical working time simply by preparing a manual to show what is to be filed, where it is to be filed, in what form (original, copies, microfilm). This, the company anticipates, will "eliminate the useless filing that is presently going on."

Encouraging clerical workers to come forth with ideas on improving office operations is a widespread practice. The A. B. Dick Company, Chicago, stresses that employee suggestions for improvements will not, if carried out, result in any loss of jobs. Certain positions may be done away with as the result of new shortcuts in systems or methods, but the people involved are transferred to other clerical work.

The growing use of written job descriptions in many of the surveyed companies enables them to be more precise in testing and selecting new employees. Two-thirds of the 275 surveyed companies say they are now taking special measures to make sure they hire clerical workers who will turn out to be more productive than many hired in the past. Most report that more time and effort are going into the selection of employees, and that hiring standards are now higher than they were a year ago.

Like many others, Minneapolis-Honeywell has combined stricter hiring standards with increased starting salaries. In today's tight clerical labor market, management knows that above-average clerical performance carries a high price tag. A number of the surveyed companies indicate that they prefer to pay higher-than-scale salaries rather than limp along with substandard clerical productivity and a costly high turnover rate.

Reflecting the increased selectivity, personnel directors are turning to more actual performance tests for clerical skills. They check references more closely and demand more education and experience in return for those better-than-average wages.

Few companies rely solely on higher salaries to attract desirable job candidates. They are turning to new sources of labor. Many, too, are improving the office environment. In the past few years—and particularly in the large office center cities—management has discovered that offices without air-conditioning have about as much attraction for bright young secretaries as a beatnik beau.

Many companies are learning to live with vacancies rather than to accept below-standard clerical workers. At International Latex, job candidates find that the less desirable features of a job—such as late-shift work—are stressed. The object: to discourage applicants who aren't prepared to make a serious effort in their work.

Representative of the attempts many companies are now making to set their sights high is the program at a steel company in the Southwest. One of the company's officers reports: "Vacancies caused by attrition are now left unfilled if possible. We are actually aiming at a slightly understaffed situation. And when new employees are needed, we require them to have a heavier educational background and to pass psychological tests."

"We have set up stricter hiring standards; we're tapping new sources of labor, increasing starting salaries, and providing a better work environment," says controller Joseph Marks of Gulton Industries, Inc., Metuchen, N. J. "We're also using increased benefits to attract new clerical workers. As a result, we're replacing inferior workers with superior ones. And with better supervision, we are getting more efficiency."

A stitch in time

Reports the controller of a Midwestern transportation company, "Because our hiring practices are now more selective, we've been able to weed out many misfits who otherwise might have been employed. We've boosted both salaries and benefits. As an extra incentive, we now offer a special bonus to any employee who recommends a job candidate who meets our standards and stays for six months or more."

Another Midwestern company—a manufacturer of office equipment—reports: "We recently introduced tests to cover the specific skills required, and we now make a closer check of

Salaries: The Climb Continues

A rise in clerical productivity is just management's fond hope in most companies, but rising clerical salaries are a persisting reality, as new data from the National Office Management Association make clear. A survey of more than 9,000 companies employing 590,000 clerical workers shows that the average salary for 23 typical jobs—ranging from mail clerk-messenger to accounting clerk—increased to $73 in 1960. It was $70 a scant year ago. Stenographers moved up to an average of $78, and tabulating machine operators to $91. Of course, there are important regional variations—clerical salaries in the East Central States, for instance, are generally $5 above the national average.

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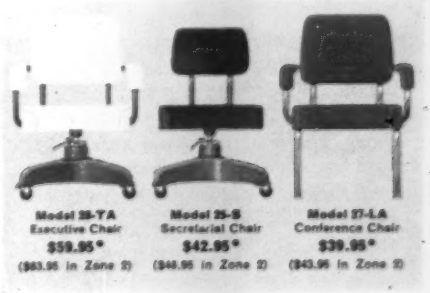

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references, past work experience, and attendance records."

Most frequently mentioned as an untapped source of productive clerical labor are older workers, who are frequently overlooked when personnel directors talk about dried-up labor pools in most parts of the nation.

Says Landon Y. Jones, controller of the Pet Milk Company, St. Louis, Mo.: "In our search for more productive employees, older workers with excellent experience have been employed. The result has been that we've obtained some very fine clerical workers, especially accounting clerks."

A recent Bureau of Labor Statistics study reveals that the output of office employees who are 45 and older is as good as that of younger workers, both in quality and quantity. In fact, nearly half of those past 45 produce at a higher rate than those in the 35–44 age group. And the performance of those past 65 is just as good.

Some of the surveyed companies that have not raised their hiring standards say they are disappointed with the caliber of new employees. The comptroller of a Rhode Island metalworking company complains: "During the past year starting salaries have been increased and a better work environment has been provided. But the caliber of new employees has remained the same or worse."

Training for productivity

Many companies are now giving more attention to training clerical workers already on the payroll, as well as new employees. Among the 191 manufacturers in the survey, 42 have recently set up new training programs to boost clerical productivity. These include such companies as Alcoa, Rexall Drug and Chemical Company, Minneapolis-Honeywell, International Silver Company, Meriden, Conn., and Solar Aircraft Company, San Diego, Calif.

With the multiplication of different types of equipment in today's office, many clerical employees are being taught to handle several varieties. Several of the surveyed companies say that to get greater productivity through the use of more mechanization, they are now training file clerks and other employees in higher skills, such as the operation of accounting machines. Where available, companies are also making greater use of the training programs provided by equipment manufacturers.

The surveyed companies are now trying varied approaches to clerical training, although most of it is still done on the job by supervisors. At Manchester Knitted Fashions, Inc., Manchester, N.H., clerks are now being taught both operations that precede and those that follow their own. At the Rawlings Sporting Goods Company, St. Louis, clerical employees are learning to handle more than one job, so that the company can shift them to take care of peak loads, illnesses, and vacations.

Classes for new recruits

Like several other companies, the Green Giant Company, LeSueur, Minn., food processors, sends new employees whose experience is limited or nil into a clerical training section before they are given permanent assignments. Alcoa has training programs to improve employees' specific skills: reading, typing and shorthand, key-punch operation, and so on.

At the Kahn Manufacturing Company, Mobile, Ala., the controller estimates that a recent 50-per-cent improvement in clerical productivity resulted from a new training program which combines weekly instruction in company-wide procedures with intensive on-the-job training.

One of the most unusual programs —used both to test and train new employees—is in force at Allied Van Lines, Inc., Broadview, Ill. The company has established a basic training department that teaches all the company's simple and repetitive clerical routines. Says controller R. E. Schrader: "We set up the Preliminary Section by analyzing each clerical job and reducing it to its components. Next, similar components were grouped together to form new jobs in the section. New employees are now broken in by introducing them to jobs with restricted areas of activity, all similar in nature. Ordinarily, if an employee is not promoted from this department within six months, we consider her expendable."

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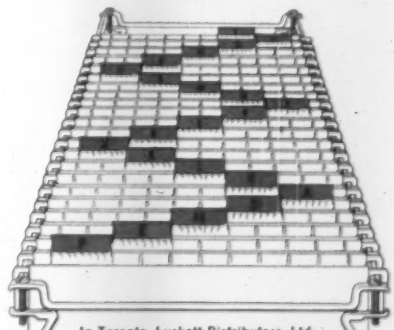

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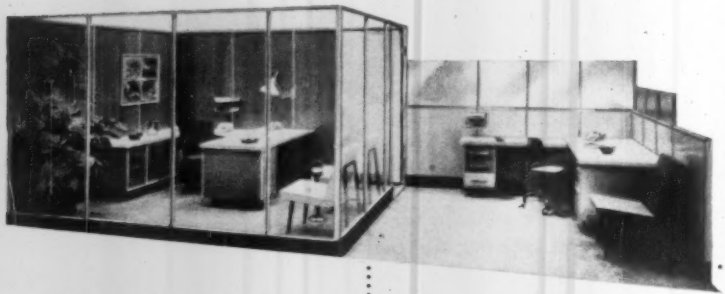

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better letters and improved customer relations. The company says, too, that its training program for accounting clerks has enabled the accounting department to handle 40 per cent more volume with only a 12-per-cent increase in manhours.

Building the basic skills

Inexperienced high-school graduates hired by Aetna Life Insurance Company, Hartford, take a seven-week transcribing-secretary training course. They learn how to operate dictating machines and are given instruction in English, composition, and typing.

To boost clerical productivity, approximately one-fourth of the 275 surveyed companies have also begun to tie clerical employees' compensation more directly to output. This is being done in a number of ways—more frequent merit reviews coupled with the keeping of performance records, direct incentive payments for better-than-average performance in measurable jobs, special bonuses.

Since many clerical employees don't aspire to supervisory jobs, companies have had to look to incentives other than the promise of promotion. Some have improved salaries and fringe benefits (particularly by adding profit-sharing plans) in the hope of improving clerical productivity through reduced turnover.

At Racine Hydraulics and Machinery, Inc., Racine, Wis., the clerical payroll is now reviewed monthly for quick recognition of merit. At the Aetna Insurance Company, clerical compensation is now tied more directly to output than before, and less emphasis is given to years of service. At Aluminum Company of America, the close relationship between performance and individual financial progress is stressed.

The Norfolk and Western Railway is giving to key-punch operators and others incentive payments for production above the minimum. At the Philadelphia Electric Company, better-than-standard performances in key-punching, billing review, meter read-

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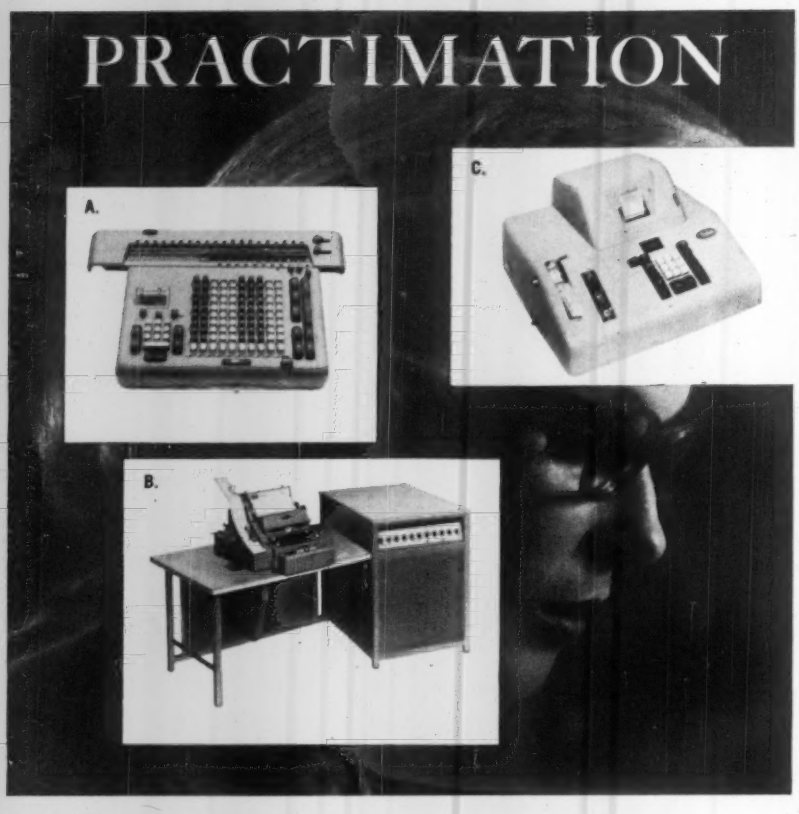

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ing, and collections draw a bonus. The International Silver Company is considering incentive payments for error-free clerical work. Lovemans, Inc., a Chattanooga department store, pays its office employees bonuses for operational improvements that stand up after a three-months' trial.

International Latex has a bonus plan (semi-annual) for both clerical and factory employees. Both performance and attendance are rewarded.

Supervisors at Leaf Brands, Inc., a Chicago food processor, now get a bonus based on clerical output and efficiency, while at other companies—the Fruehauf Trailer Company in Detroit, for example—profit-based bonuses spur supervisors' efficiency.

Despite these new approaches to boosting clerical productivity, some companies still rely on time-tested stimulants. Says the controller of a Detroit chemical company: "Our clerical employees either produce or join the unemployed."

Although the use of direct incentive payments to spur clerical productivity is apparently growing, at least a few experts in office operations are wary of them. They say they can be an entering wedge for office unionization, since clerical output incentive payments are essentially piecework set-ups. Also they feel using such direct incentives deprives the supervisor of his basic function—making sure that each person gives a fair day's work for a fair day's pay. They feel that the relationship of work to pay can be adequately balanced by merit reviews.

Setting output standards

How do you decide what a fair day's work for clerical employees actually is? An Eastern utility had a rather startling experience when it recently tried a novel way of finding the answer to that question. After examining one clerical operation—filing—as part of a feasibility study for a computer, management decided to set work performance standards for the file clerks, coupled with an incentive in the form of hours off.

Management determined the standard number of papers that each girl should file each day and announced that when the girls were through with this chore, they could go home. The results were so striking that the company was able to reduce the number of file clerks in the department from

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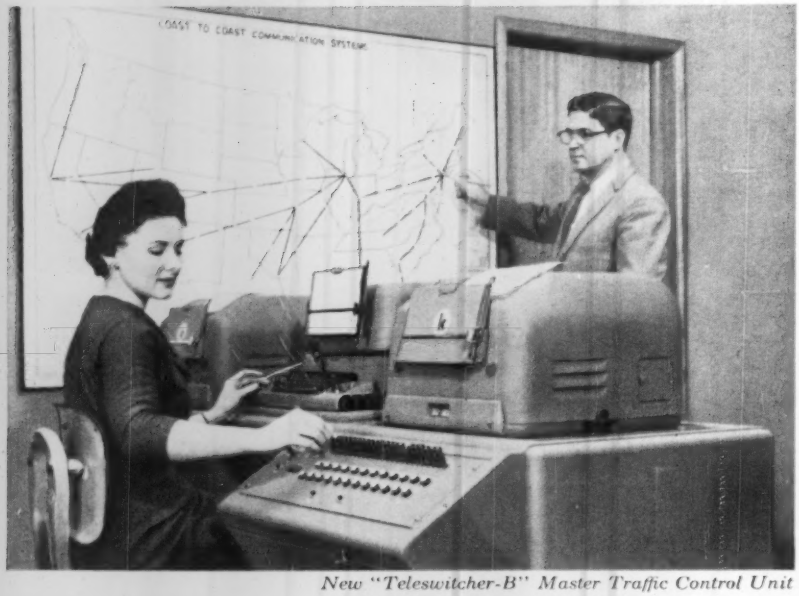

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nineteen to fifteen—and these fifteen were still able to leave before three o'clock.

Of course, since the disparity between work performance before and after the incentive was introduced was so marked, management has been gradually increasing the work standard. But even so, it expects that within a year the department's total work force will be down to twelve and that the girls will still leave at least an hour earlier than they did originally.

Slackening work performance

The companies questioned by DUN'S REVIEW report an increased use of clerical time standards to determine the proper size of the clerical staff in relation to the present and expected workload. One in five of the 191 surveyed manufacturing companies reports that its clerical work performance standards have suffered recently in the face of a shortage of good clerical workers. Proportionately more—about one in three—of the manufacturing companies in the over $100 million sales group reported deteriorating work performance standards than did those in other size groups.

The companies that have been able to maintain high work standards despite office worker shortages rely on a variety of specific techniques, most of which are also being used to boost clerical productivity. Most commonly, however, the respondents attribute their good performance records to better-than-average supervision.

The Pepperell Manufacturing Company, Boston, has been able to maintain high standards through closer supervision, by breaking tasks down into repetitive action (with exceptions referred to supervisors), and by greater use of pre-printed forms. Other companies have stepped up mechanization of office operations in order to absorb turnover and not have to take on employees who may not measure up to previous performance standards.

Like many of the reporting organizations, the Pet Milk Company, St. Louis, is now keeping work reports in

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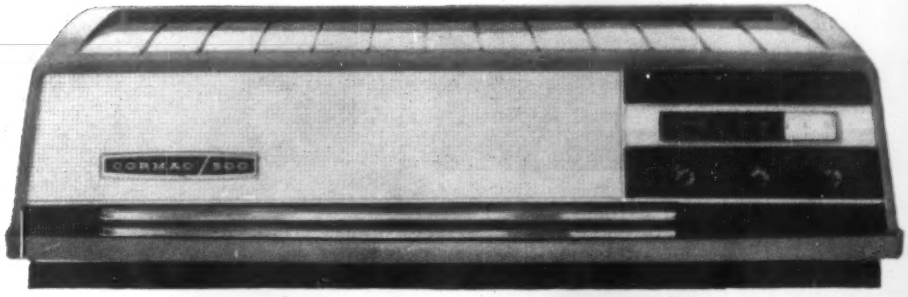

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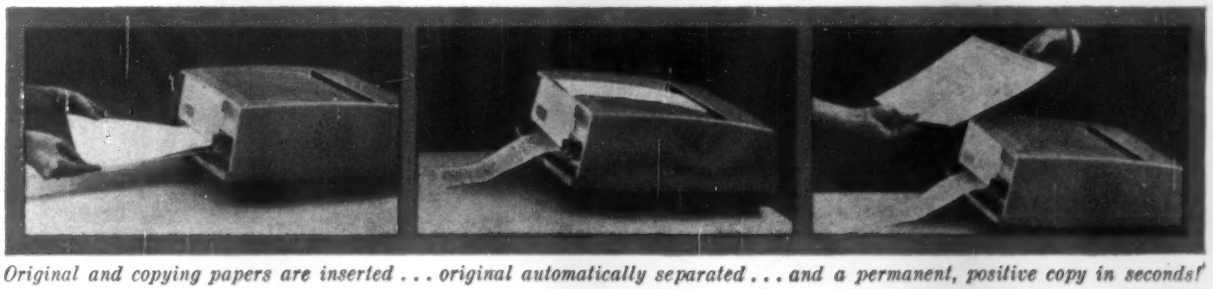

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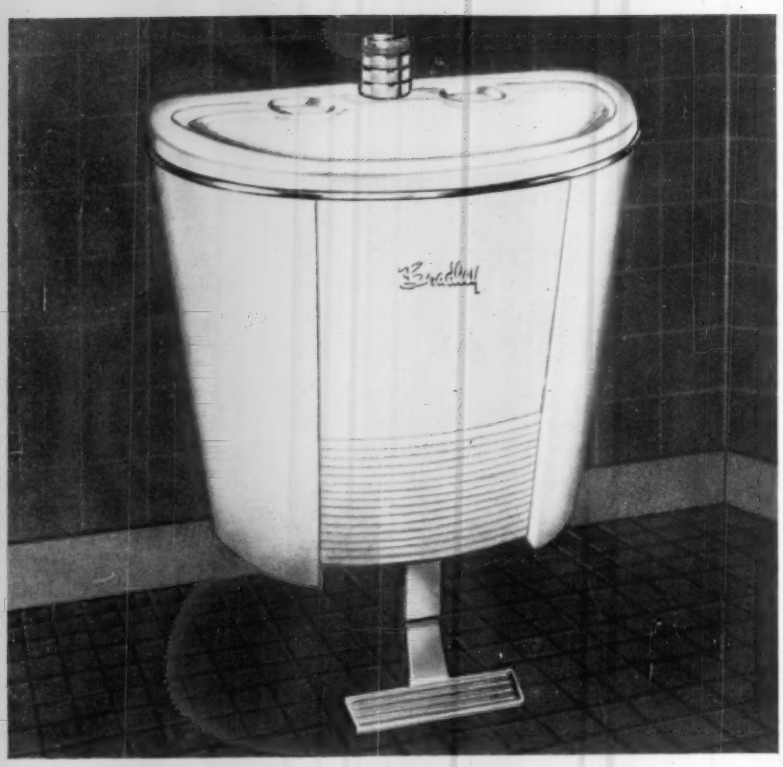

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some departments. From these, standards are set to determine whether or not an employee is producing a below-average, average, or better-than-average amount of work. The company is also making an accuracy check of the letters transcribed in one department, in order to set standards.

At a DUN'S REVIEW Roundtable, Charles Elitch of Frank Knox & Co., New York and Cleveland management consultants, emphasized the importance of measurement standards, even when they're only approximate or—as in the case he cited—presented as a gentle hint: "One key-punching department with twelve people was working Saturdays and Sundays, and sending additional work out to a service bureau. It also had a requisition in for four or five people.

"At my suggestion, the supervisor went out and bought twelve one-foot rulers and handed one to each of the key-punch operators, requesting that they give him a lineal measure of the number of cards punched each day.

"With approximately the same total workload, the department was soon able to give up Saturday and Sunday work, the service bureau was no longer needed, and in the near future, two of the twelve girls are going to be transferred to another department."

Working in the dark

Criticizing the lack of work performance standards in many companies, Elitch continued: "When many people come to work on the first day, they are introduced around and told when the coffee breaks occur and what the company provides in benefits. But they never learn how much they're expected to produce. Nor are they given any incentive whatever for doing a better-than-average job. Too many companies are still rewarding people just for spending time on the premises."

Adds Warren C. Hume, IBM's Midwest regional manager: "If management sets up standards to measure what is being done, it immediately starts to drive down office expenses and to get greater efficiency. For people don't generally do what we *expect* —they do what we *inspect*."

About one half of the 275 surveyed companies are now making special efforts to improve the quality of office supervision. More and more top managements are coming to realize that clerical productivity rises and falls with the level of office supervision.

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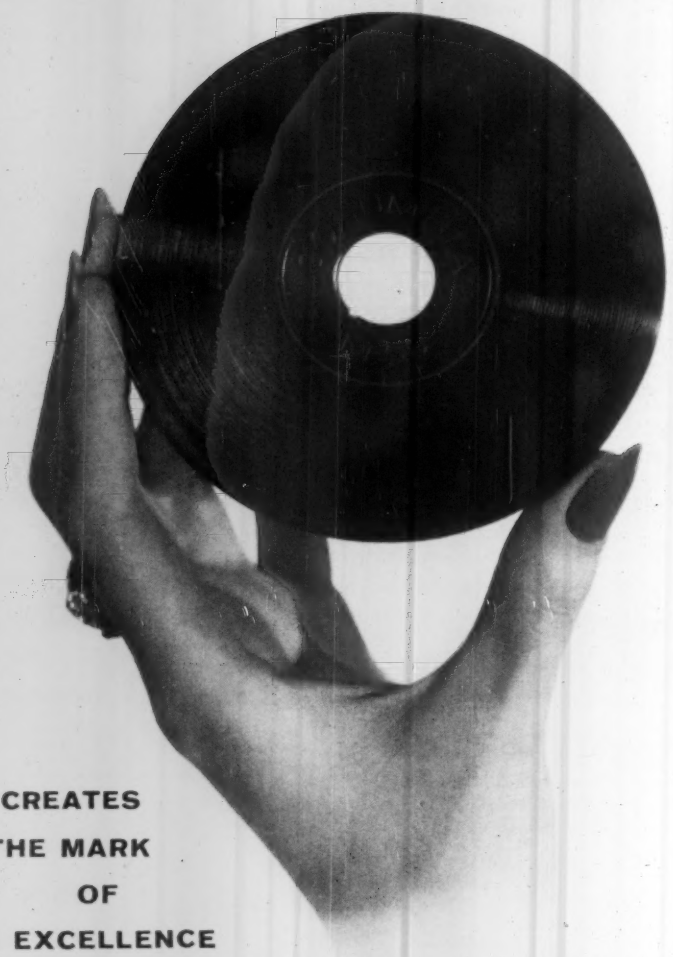

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OFFICE PRODUCTIVITY

What are these companies doing?

- They are exercising more selectivity in the choice of supervisors. Rather than simply promoting the high-producing clerk with the greatest seniority, they are giving special tests to gage supervisory ability.
- Supervisors' pay levels are being upgraded, and many supervisory jobs are being included in management development programs.

Accent on training

- Training programs for supervisors are being stepped up, and there is more emphasis on getting training outside the company. Supervisors are urged to keep on top of new advances in office equipment and are being given intensive courses in such subjects as human relations and rapid reading.
- They are also getting more help from top management. Effective working tools, such as work measurement techniques, operating manuals, and better job descriptions, are now made available, as well as assistance from corporate systems groups and outside consultants who can help simplify operations. Supervisors are being urged to pass routine chores along to clerical employees, and the number of people who need supervision is often reduced as well.

Says Frank Knox, president of Frank M. Knox Company, Cleveland: "Many companies still need to make their office supervisors into managers of people rather than monitors of work, which most of them still are today."

The Hedstrom Union Company, Dothan, Ala., has attacked the problem by calling weekly meetings of office supervisors. There they discuss how to improve office operations in and among departments. A Cincinnati food manufacturing company schedules monthly meetings of office supervisors at which training films are shown and operating problems examined. The company says that the exchange of ideas at these meetings has led to noticeable improvement of interdepartmental cooperation. The

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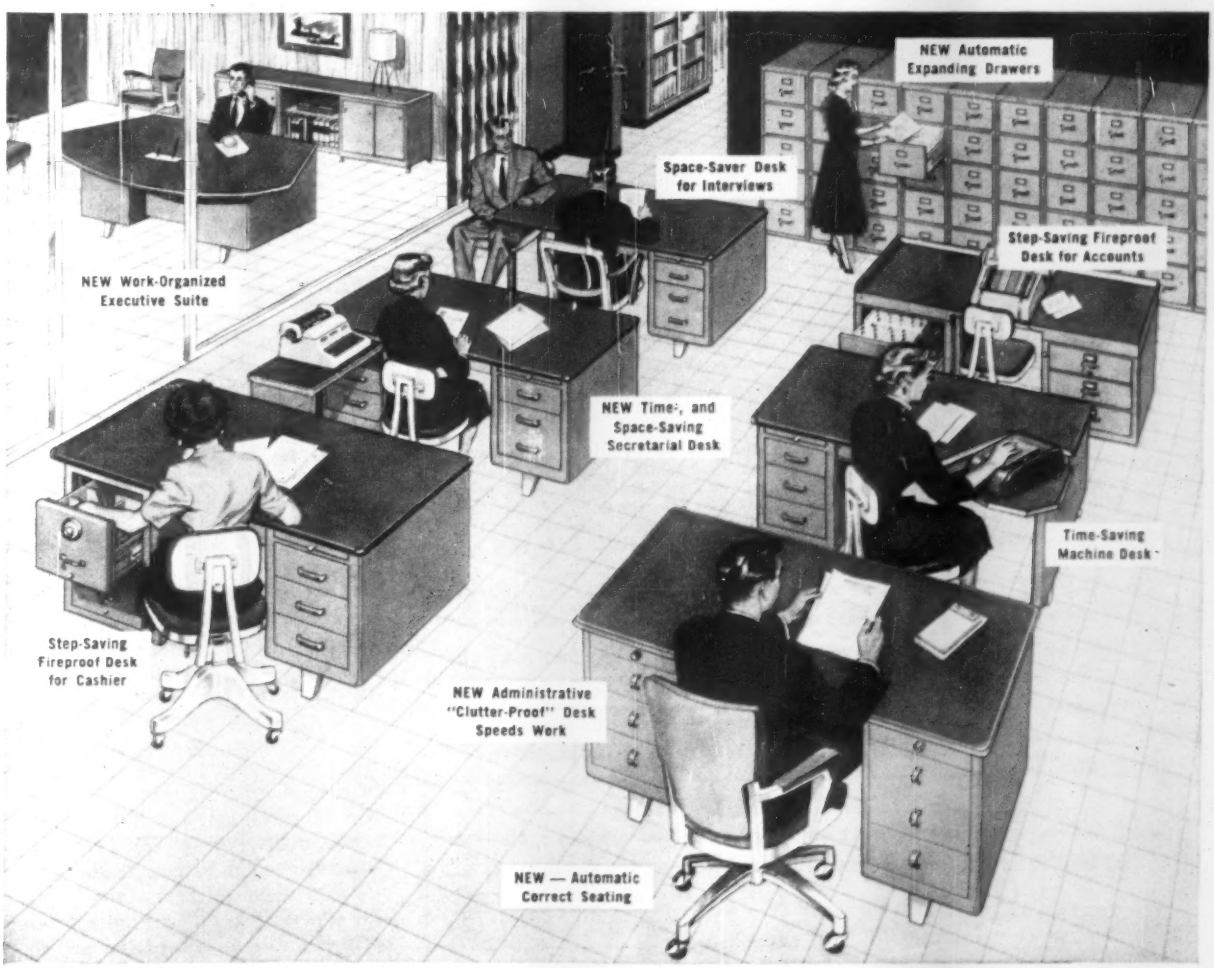
COST REDUCTION, a vital problem in all divisions of a business is nowhere as challenging as in the administrative departments. Office costs, having trebled during the past decade, are today *of primary concern* to top management.

It is in the record that since 1899 Shaw-Walker has been equipping business with "time-engineered" office facilities as inventive and ingenious as American production techniques, — that Shaw-Walker equipment and systems *have cut office costs*, saved floor space and made offices more livable.

For today's *cost-conscious* management Shaw-Walker "time-engineering" research has now produced — The work-organized "clutter-proof" desk; Automatic expanding file drawers; Step-Saving Fire-Files and fireproof desks that protect records at point-of-use; Labor-Saving equipment and systems for tape handling; Error-Proof filing systems; Automatic correct seating chairs; Time-Saving payroll plans; and Numerous Other Devices that facilitate recording, filing and finding of records.

Some of these "*cost-cutters*" are pictured here. All are in the 252-page Shaw-Walker Office Guide.

Throughout, descriptions plainly state economies you can expect from Shaw-Walker "time-engineered" equipment and systems. *Free to Management when requested on business letterhead. Write Shaw-Walker, Muskegon 49, Michigan.*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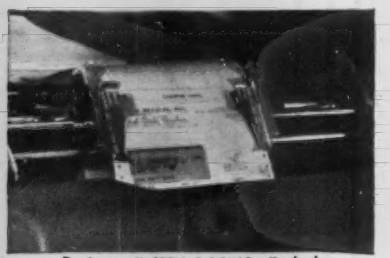

Typing unit STEN-C-LABLS attached to continuous form on tabulating machine.

Addressing direct to carton with die-impressed STEN-C-LABL.

1 As a by-product of office procedure

Your present method of preparing your invoices, orders, bills of lading or shipping papers can also prepare STEN-C-LABLS *at the same time*. Whether you use manual or electric typewriters, electric billing or accounting machines, slave machines or various magnetic tape and punched IDP systems, there's a STEN-C-LABL to fit your requirements.

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With handy squeeze-feed applicator, shipping department makes unlimited impressions direct to PANL-LABL printed on carton at no extra cost. Also addresses gummed labels and tags. Addressing is fast, neat, legible. Laborious, repetitive procedures are eliminated, preventing errors and mis-shipments.

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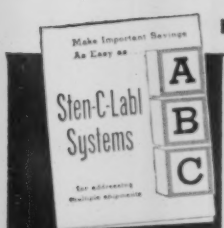

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Yes, I'd like to know more about saving with STEN-C-LABLS.

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Foote Mineral Company, Philadelphia, now holds semi-annual two-day seminars in the home office at which office supervisors discuss specific ways to improve operations.

Office supervisors at International Latex, Dover, Del., are asked to keep dossiers of departmental work projects and output so that management can gage their performance.

The Interstate System, Grand Rapids-based trucking company, is planning to divide its office operations into smaller departments. Supervisors will then be able to spend more time with each person they supervise. Through both training programs and orientation courses, the Aluminum Company of America is trying to re-emphasize the supervisors' closeness to management, while providing them with the newest supervisory techniques. Employee opinion surveys are also being conducted to discover areas of supervision that need improvement.

Admiral Corp. is conducting a special training program for office supervisors, in order to delegate them more responsibility for the management of their operations. The company looks for important savings in clerical costs. Excelsior Mills, Pendleton, S.C., has stepped up college recruitment to attract potential office supervisors. Candidates are given a 52-week training course both on the job and in company classrooms.

Target: less waste effort

The goal of these and other programs which stress closer and more effective supervision is better clerical productivity. Notes the controller of an Oregon lumber products company: "We are concentrating on closer supervision of employees because a job that doesn't have to be re-done provides time for a new task."

The drive for more clerical productivity, however, should be tempered with an understanding of the new techniques in employee relations. Dr. Rex Hurt, Hammond, Ind., industrial psychologist, points out that "inept supervision can reduce the output of those with the highest aptitude. Skillful supervision can get more production from them—and from people of average ability as well. Studies have shown that the democratic, employee-centered supervisor generally gets better production from his workers than does an authoritarian supervisor who has a 'get out the work' attitude."

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But despite the present push to improve the quality of office supervision, there is apparently a long way yet to go. Says Bernard Heinrich, office manager of the Admiral Corporation, Chicago: "In many companies, office supervisors don't even know what some of their people are doing, how they are doing it, or even why."

The comments of one manager of methods and procedures for a major equipment manufacturer are critical: "We often interview a supervisor who really doesn't know what his job is, since it has never been defined. We frequently find two or even three supervisors in the same area of office operations each of whom thinks that he alone has some specific responsibility.

"On the other hand, we sometimes find areas of responsibility that no supervisor claims at all. If management will clearly spell out the areas of responsibility in office operations, it will raise productivity and recover supervisory time now lost in arguments and confusion.

"Responsibility is fairly well defined at the top management level. There is no reason not to pass the same approach down to office management."

Shortsightedness on systems

According to many corporate systems men, most office supervisors have very limited views on the responsibility for systems improvement in their departments: They feel it is either entirely their own province, or else wholly that of the corporate systems staff. Rather uncommon is the approach that produces the best results—the full cooperation of supervisors and systems men.

Before the end of the decade, a lot of office drudgery—laborious filing, detailed checking of one document against another, and the like—will be sloughed off on to data processing equipment. The result may well be an upgrading of clerical jobs and widespread job enlargement in office operations—a technique that IBM and other companies credit with im-

How to stop girl poaching!

"Our Pres. is one of those direct action, do-it-now guys. Whenever he wanted to send out dividend checks, dealer bulletins or copies of his own speeches, he just commandeered all the girls in the shop, and put them on his chain gang. The girls hated it — and our daily work schedules went haywire.

"Then our office manager learned about Pitney-Bowes' little folder and inserter — and the Big Boy gave up girl poaching. One girl now handles all the mailings. No crises, no sweat!"

A compact, combined folding and inserting machine, the 3300-FH can fold and stuff 500 single enclosures into envelopes in eight minutes.

It will handle statements, invoices, booklets, price lists, coupons, even stapled sheets.

The 3300-FH is a cinch to set and easy to use; folds and stuffs more accurately than hand operations; feeds and stacks automatically; helps avoid diversion of girls from their regular jobs and the interruption of office schedules; saves time, overtime, and hiring temporary workers. Both the folding machine and the inserter can be used separately.

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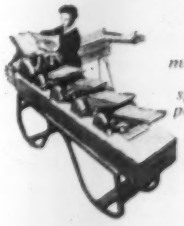

The 3100 Inserter is a larger, high capacity model, that will stuff up to six enclosures, at speeds as high as 6,000 per hour. It can also be attached to a Pitney-Bowes postage meter mailing machine that meter stamps and seals envelopes after stuffing.

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portant gains in factory productivity.

Yet the need for better training and more effective supervision will be even more pronounced in the years ahead if today's population projections run true. These projections indicate that during the 1960's those segments of the population that make up the clerical workforce will increase 50 per cent faster than the labor force as a whole.

But by 1970, there will be fewer men aged 35 to 44 in the workforce than there are today. Since this is the group that supplies many office supervisors, management will be hard pressed unless new ways to keep tabs on sprawling office operations can be developed.

Top management can't reverse these population trends. But it can face up now to the urgent need to get its office operations in shape for the big changes ahead. —T.K.

Technology is bringing sweeping changes to today's office operations. But to get the best results from the new equipment, management must take a fresh look at the way paperwork is processed.

Today's Trends in Office Technology

RECENT years have brought a flood of new technological advances to the office. During the first half of this century, most of the efforts of equipment makers went into the improvement of existing office machines.

But with the 1950's came a tidal wave of change which engulfed the American office, bringing near-disaster to managements who rushed out too hastily to take advantage of the new technology. Too often, computers were bought as corporate status symbols or as panaceas for piled-up paperwork panic. The natural result: widespread management disillusionment.

On the other hand, companies that were overly cautious about putting new equipment to work — either through a fear of upsetting established routines or because of the price tags on the new equipment—have seen their competition sail steadily ahead.

New estimates of the extent of market penetration for various kinds of office equipment indicate how much still needs to be done to equip the nation's offices with the tools that are needed to boost productivity. For example, manufacturers have found that only about 20 to 30 per cent of the offices that could use dictating or copying equipment actually have it.

The Royal McBee Corp. estimates the market penetration for small computers today at 10 per cent—considerably less than the figure usually cited for the big "brains."

To help solve the immense data paperwork problems of industry, office equipment makers are now preparing new products on an unprecedented scale. Here are some that experts predict for the years ahead:

- Large wall-size or desk-mounted television screens for instantaneous data retrieval at the push of a button
- The long-awaited typewriter that takes dictation directly—researchers at Japan's Kyoto University recently completed a prototype model that types Roman letters in response to combinations of spoken sounds
- Desk-top adding machines operating on an optical-scanning principle to total columns of figures faster and with fewer errors than any clerk
- Executive phones equipped with television for face-to-face conferences, substantially cutting travel
- Accounting machines quieter and more compact than today's models, thanks to greater use of electronics and non-impact printing.

Big things ahead

Of course, some of these products of the future already exist in pilot installations or in laboratory models. For instance, the Air Force uses optical scanning equipment to read typewritten pages for conversion to punched tape.

Before the decade is over, many authorities in office operations look for a pervasive change in data handling techniques in most offices. Meanwhile, strenuous efforts are being made to improve today's equipment and make it useful to more companies, particularly smaller ones. Eyeing the recent success of many banks in adopting standardized magnetic-ink check-handling methods, both equipment makers and users are pressing for increased standardization of various kinds of office equipment.

Almost all traditional kinds of office equipment—from the adding machine to the typewriter—can now be linked by various means—punched tape, punched cards, or direct couplers.

The need to produce equipment that will sell better in foreign markets has given the manufacturers an added push toward standardization.

Other technological changes are broadening the functions of office equipment. The addition of electronics and memory units to accounting machines gives them some of the characteristics of computers, without requiring the highly trained people needed for the large computers. One new electronic accounting machine produced by National Cash Register

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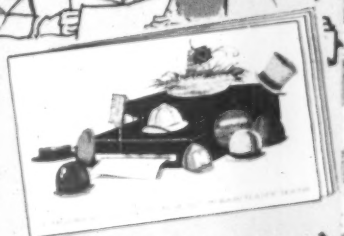

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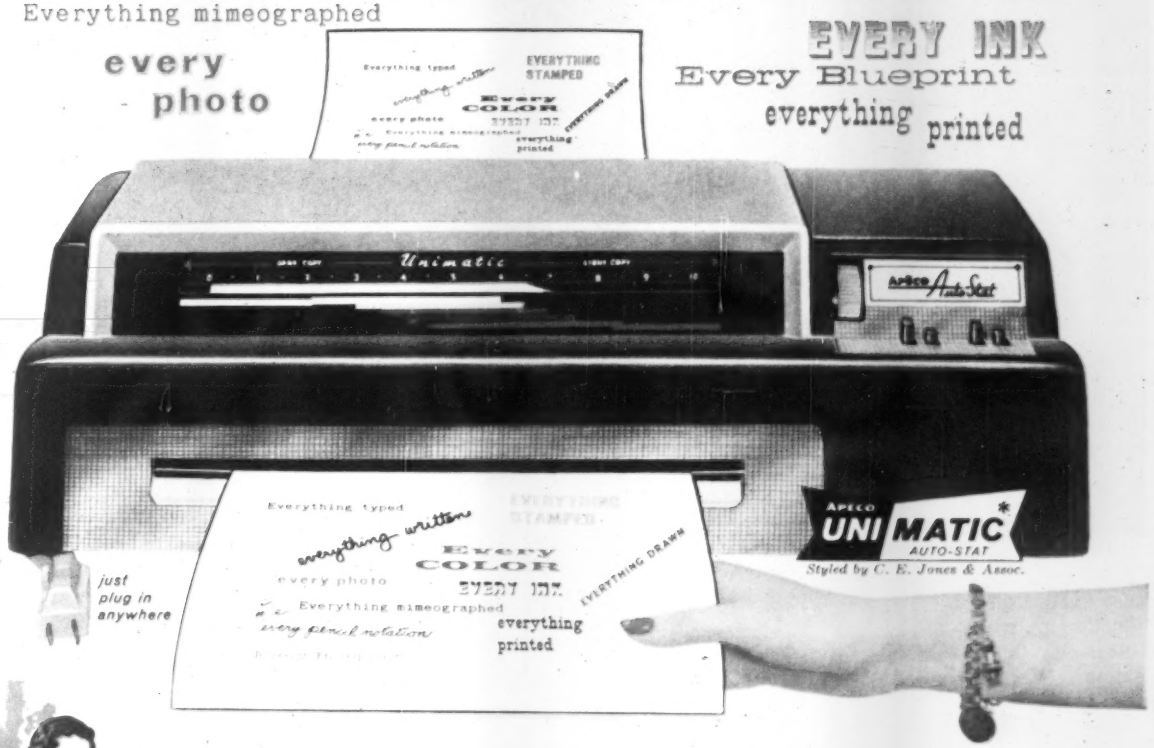

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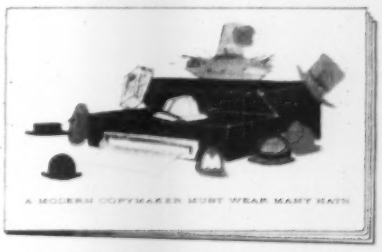

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Company enables an operator to prepare a payroll for 500 employees in one day—a 65-per-cent reduction in manhours.

Among many recent advances in data transmission is the new equipment for sending computer data over regular phone lines at the rate of 150 characters per second.

So that management can take full advantage of EDP equipment, manufacturers are now focusing on techniques for the input of data—the area still in need of most improvement. Typically, whatever the starting point of the paperwork cycle—sales order, purchase order, or some other record—the data are first put down in handwritten or typed form. Unless the typewriter has a punched-tape attachment there is an additional cost in key-punching to permit further processing.

To solve the problem of slow and expensive input, equipment producers are developing special devices. For instance, IBM now offers its 357 Data Collection system, which is a network of electronic reporting stations at job locations. Workers feed information on work-in-progress to a control center, where it is reproduced on punched cards and run through data processing machines. The result: up-to-the-hour pictures of how things are moving in the plant.

Ideally, the solution to input problems is an optical scanning device that can read hard copy and translate it directly—without the intervening step of key-punching—into computer language. Several companies—NCR, RCA, and IBM—are pressing hard on this problem. Farrington Manufacturing Company, Needham Heights, Mass., has perfected an optical scanner which is used primarily to read sales invoices imprinted from credit cards at gas stations and to record the data on magnetic tape, punched cards, and punched paper tape.

Another knotty problem—that of fast and inexpensive retrieval of information from the masses of data produced by the new technology—is currently getting increased attention.

Already in use at the Pentagon, "film chips" (see photo) will likely have an important impact on industry's information-handling methods in the years to come. Developed by Eastman Kodak, the Minicard offers a 60-to-1 reduction for any digital or graphic data. A twelve-page manuscript fits on one chip, which combines the handling ease of the tabulating card with the compactness of microfilm.

Because all the chips are indexed by means of magnetic spots, they can be scanned electronically at the rate of 1,000 a second to extract particular information. When found, a chip can produce hard copy on any one of several recently developed machines—such as electrostatic or heat-transfer enlargers, among others. Closed-circuit television offers a further possibility for the display of the information.

Despite impressive individual advances in data handling, alert management never loses sight of the fact that the primary clerical operations are reading, recording, computing, and communicating, and that the best approaches are those that improve these operations harmoniously.

In addition, there are many other subsidiary actions that must be taken to bring about each of the primary operations. As Alan O. Mann, director of computer marketing at Philco Corp., points out, traditional office tools helped the clerks do the primary operations and some secondary chores—such as sorting, filing, retrieving data, comparing, and checking—faster and better, but the primary operations still required direct clerical labor.

Compressing the effort

With the introduction of machines that could be activated by punched paper tape or punched cards, most of the primary operations were mechanized. Although integrated data processing equipment can work wonders for many companies, large computers have a distinct advantage for volume

Off-the-Cuff Evidence

A claim adjustor of the Cal-Farm Insurance Companies, Berkeley, Calif., completes a field interview with an accident witness while a dictating machine records the conversation. Adjustors now handle about 20 per cent more claims, and the office workload has been dramatically cut. Previously, each adjustor dictated his interview notes to a stenographer, who typed them and filed copies. Now the Dictaphone belt itself is filed—in California and other states, it is admissible as evidence in court. Says the insurance company's general manager, Lewis P. Wicker: "It's much better than a written transcript, since frequently the hesitations and emphasis in the witness's oral statement are almost as important as the words themselves."

These are the five famous brands of the United States Shoe Corporation.

BURROUGHS TYPING ACCOUNTING EQUIPMENT SAVES 100% OF ITS COST EVERY 9 MONTHS AT UNITED STATES SHOE CORPORATION

The scene: The United States Shoe Corporation of Cincinnati, Ohio. **The job:** Accounts Payable. **The equipment:** The Burroughs F-1506 Typing Accounting Machine. **The results,** according to Controller and Assistant Treasurer H. F. Rottinghaus: "Because of its greater speed and work capacity, this equipment saves 100% of its cost every 9 months. Such performance is typical of our other Burroughs machines—including 11 Sensimatic to Punched Tape units now preparing payroll information in our 11 manufacturing plants, and four numerical accounting machines on accounts receivable."

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"NEW DIMENSIONS / in electronics and data processing systems"

operations. With IDP equipment, each successive step—reading, recording, computing, and communicating—begins after the previous one is done. Large computers have been developed that do these operations in parallel.

How well satisfied is management with new data-processing equipment? In a recent National Office Management Association Survey of 369 companies, only 5 per cent were still unsold on their EDP and/or IDP installations. And in only 1 per cent of the companies was management considering replacing the equipment with the previous system.

In analyzing the direct cost results of the new installations, 36 per cent of the surveyed companies said they had realized savings from the new set-up. Forty-six per cent said they were breaking even. Eighteen per cent reported that the new installation cost more but was paying off in greater speed and accuracy of information, besides producing useful information not previously available.

No longer does management go all out to find applications for the company computer in order to run the machine at capacity and amortize its sizable investment—an approach that led many companies astray in the past. Instead, computers are being put to work to meet sharply defined company objectives and to provide fresh combinations of information not available before.

Improved customer service, tighter inventory control, and more centralized information on decentralized operations are perhaps the computer's most important contributions today. In the future, many companies see increased use of computers in operations research.

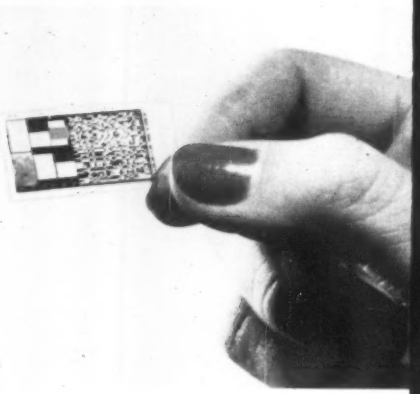
As A. T. Craft, vice-president of Royal McBee's data processing division, notes: "The serious errors in the past in the use of computers resulted from either one of two extremes. Either the existing office procedures were twisted to fit the computer, or else the computer was misused to perpetuate the outmoded system. Either way, computers got a black eye." Today, before shopping for a computer, most companies analyze and simplify their procedures as much as possible and decide rather precisely on their specific needs.

Contrary to the common notion that computers are only for the biggest companies, the NOMA survey revealed a surprisingly high utilization of computers by small offices. For instance, among 33 offices with fewer than 25 clerical employees each there were 22 EDP installations. Almost all were small-scale systems. And among 79 offices with employees of from 26 to 100 clerical employees, there were 49 EDP systems—half of them small. The biggest percentage of the small EDP systems in companies of all sizes were used for payroll, but almost as many were used for sales analysis.

Most computer makers are now giving special attention to the development of lighter, less costly equipment to solve the data-handling problems of the small- and medium-size company. The trend is to modular units that can be linked together to form a larger system when needed.

The development of automatic programming, of course, has put computers within the reach of many companies that in the past had felt they couldn't afford them. In addition to developing small computers, the various manufacturers are looking to their service bureaus to serve the data-handling chores of small companies.

TYPICAL *of today's paperwork short cuts is the new system for processing customers' orders at Grimes Manufacturing Company, Urbana, Ohio. Veritax copies of the original order are used as a customer acknowledgment, customer invoice, and manufacturing work order.*



TINY *film chips that contain as many as twelve pages of reports, charts, drawings, or other material are one solution to the growing problem of information retrieval (see story).*

No longer too costly

One company that has been demonstrating the value of electronic data processing to the small company is A. S. C. Tabulating Corp., Chicago, which offers monthly financial reports prepared on a low-cost, small-size Bendix computer for as little as $10. The service, which is available through public accountants, works like this:

The accountant takes the monthly operating records of the retail stores or other small firms he services—normally about 30 retailers—and runs calculations on each of them through an adding machine on one continuous tape. The by-product punched tape is mailed or delivered to the service company, which—at a charge of $10 for about 300 bookkeeping entries—runs it through the computer and comes up with a completed monthly financial statement every fifteen minutes. By the usual method of posting individual entries by hand in a set of books, it would take about eight hours to come up with a monthly financial statement for the small company.

Although electronic computers have received the most attention, they are certainly not the only important new technological development for the office in the past decade. Office operations in many companies have also been profoundly affected by inte-

grated data processing equipment and the desk-top copying machine. Both have made it possible to take a new look at hallowed company systems and to break through the paperwork curtain that frequently frustrates top management's efforts at effective control.

For instance, bookkeeping machines can be coupled with key-punch equipment so that sales analysis data can be obtained as a by-product of the monthly billing operation. The total cost of the extra equipment and the service bureau costs for printing out the sales analysis from the punched cards are less than an extra clerk's salary.

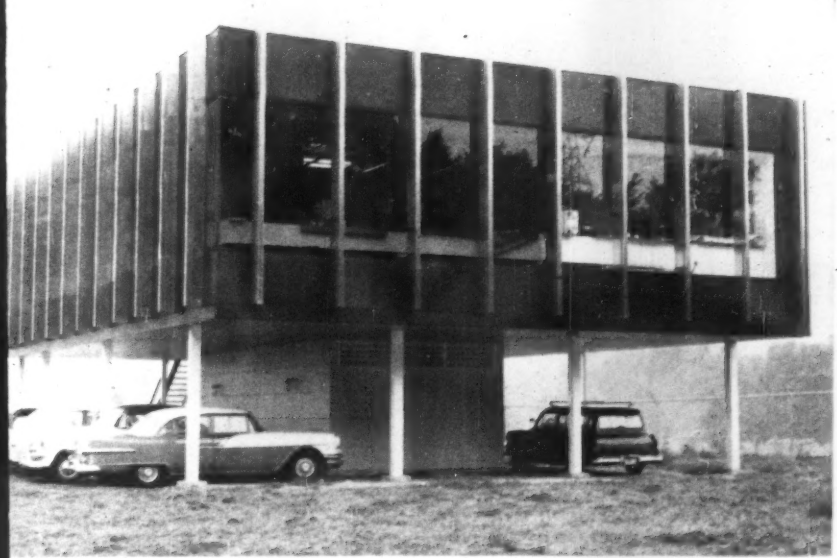
Manufacturers of copying machines are coming up with additional applications for their equipment, frequently aimed squarely at the small company. For example, Minnesota Mining and Manufacturing Company offers its Thermo-Fax sensitized paper in perforated form, divided into dozens of rectangles with an adhesive coating on the reverse like a postage stamp. Simply by typing up a mailing list just once—say, for monthly billing purposes—a small company can prepare all the address labels needed on the machine each month and avoid a heavy monthly typing chore.

Other types of equipment, of course, can provide important boosts in clerical productivity. For instance, the General Finance Corp., Evanston, Ill., reports that a changeover to open-shelf, circular, rotating files enabled one department to reduce filing personnel by nearly one-half.

These and many other companies are discovering every day that effective management and the latest advances in office technology can combine to give a sharp spur to lagging office productivity. —T.K.

The cramped, crowded office is as out of date as the quill pen. With skilled help in short supply, companies are learning that they get the best workers—and the best work—when the office is planned for productivity.

Office Environment: Design for Efficiency



SPACE PLANNING: *In its search for the most productive possible office environment, Union Carbide Corp. constructed this full-scale, section mockup of its projected office skyscraper just completed in New York City.*

AMERICAN management is revolutionizing the environment of the office. Gone or going are walls of landlord buff and sour-apple green. On their way out are windows that have to be opened, helter-skelter work stations, dull lights, crowded desks, and haphazardly planned office layouts.

What is behind management's new interest in office environment?

- At the DUN'S REVIEW Editorial Roundtable on office environment, experts pointed out that not so many years ago the office was mainly a place where records were kept and after-the-fact functions performed. Now it plays a pivotal role in company operations.
- Management has come to realize how much more of each operating dollar must today go to the clerical and office force. Back in 1900, in the

era of the roll-top desk, there was only one office worker for every 20 workers in the plant. By the late 1950's, there was one man—or woman—in the office for every 2.2 plant workers.

- Faced with a diminishing supply of skilled clerical workers, companies offer pleasant working conditions as bait.
- The spread of mechanization, the introduction of methods that press for more efficiency, and the big office make a "more human" environment imperative to offset the psychological effects of automation and the depressing influence of an impersonal atmosphere.
- Overshadowing all considerations is the fact that many office experts

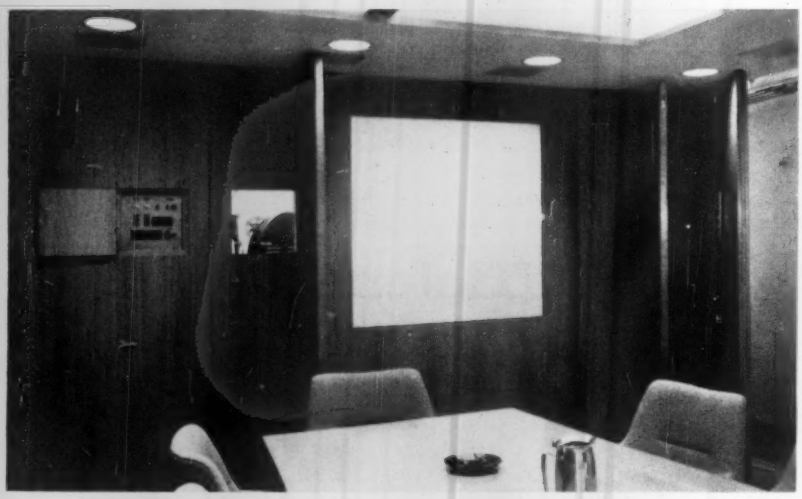
In the Executive Suite

The success of the modern corporation is based on the work that the executive does in his office, and designers and architects are making every effort to give the executive the best possible place to work.

Most important, perhaps, are the tangible tools that nowadays give executives more time to think and work at their jobs—intercom systems, wallboards, push-button conference rooms and even closed-circuit TV.

At the same time, designers are concentrating on integrating these services into an environment that provides—as one designer puts it—"a place where the executive psychologically wants to be."

On these pages are shown some of the newest achievements in executive office aids and design.



ALL-PURPOSE BOARD ROOM: *In the office environment revolution of the past ten years, the meeting place of the board of directors has become increasingly functional and versatile. This outstanding example, the Executive Board Room of the American Electric Power Company, Inc., New York, was designed by architect J. Gordon Carr. It has complete wall control panels at the end of the large table with controls for tape pickup and loudspeakers, dimming or*

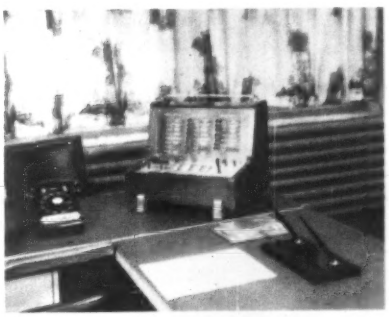
DESKLESS OFFICE: *Complete communications and a specially designed chair provide all the working space needed for a chief executive who doesn't like to use a desk. This office, featuring ductless air conditioning, was designed by his own firm for Michael Saphier, Michael Saphier Associates, Inc. Dictograph machine and two telephones are part of the office intercom system.*

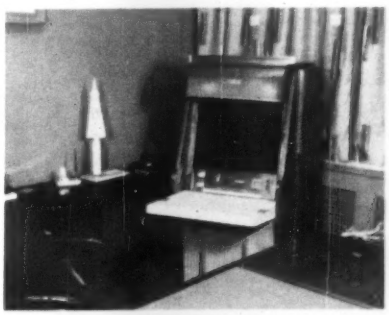
say that clerical workers in most offices could step up their output, on the average, as much as 50 per cent.

Most major corporations have accepted the fact that there is a distinct connection between the amount and quality of work a white-collar employee does and the kind of place in which he does it. Companies have been building new offices and revamping old ones to squeeze more production out of every square foot of space and out of every dollar of clerical costs.

A DUN'S REVIEW survey of the office operations of some 200 corporations found that almost 70 per cent had modernized their offices, and some of the companies have estimated the increases in productivity. Says one manufacturer, "During the past year we replaced old wooden desks and chairs with the latest metal furniture. Our clerical workers report less fatigue and eye strain. Easy-to-operate drawers and chairs that promote good posture resulted in a 10-per-cent increase in efficiency."

Another corporation reports, "We estimate that our accounting division's





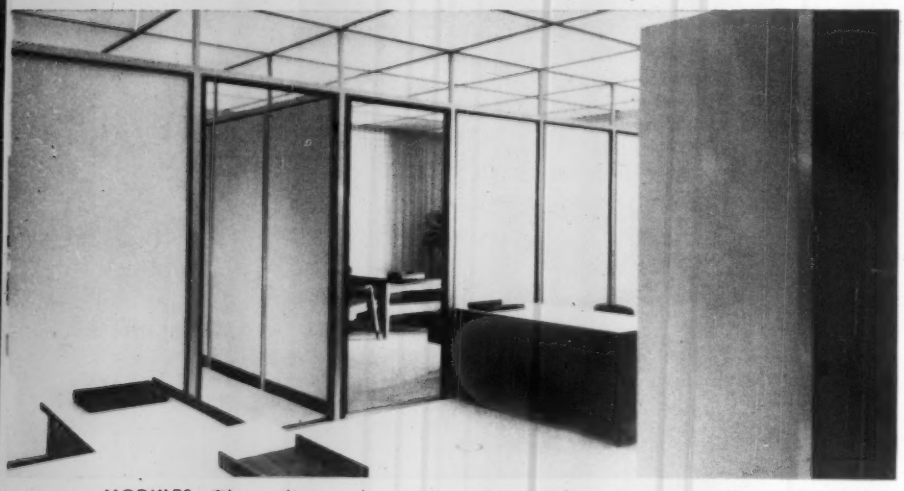
EXECUTIVE TELEVISION: *The first television "Management Information Control System" has been installed by Tele-Prompter Corp. at the Army's Redstone Arsenal to connect chief executives of three key missile headquarters. Two-way television, secondary cameras, and tape within the system permit complete information communication. Other cameras permit users to display charts.*

brightening lights, microphones and tape recorders, and a projection window for either front- or rear-screen projection. Sensitive microphones are concealed in the ceiling. Sliding doors on one side of the board room (center) open into a wider area, and the whole may be used for one, two, or three meetings simultaneously. Other board rooms nowadays are designed with closed-circuit television and similar communications features.

CONCENTRATION AND CONFERENCES: *The offices of the president of American Electric Power Company provide a work area for concentration with an adjacent conference room, visible through the doorway. A luminous ceiling provides plenty of light. Strips of grillwork across the ceiling service auxiliary heating and cooling units for use on evenings and weekends.*

MORE LIGHT: *Over the last ten years, designers have constantly increased the amount of light in the office, moving finally to complete lighted ceilings, as can be seen behind the receptionist in the new Union Carbide building.*

DAYLIGHT: *Almost all private offices at International Minerals & Chemical Corp.'s new Skokie, Ill., office were put in the center core so that the maximum number of people could enjoy daylight in the open perimeter area.*



MODULES: *The ceiling and partition pattern of a section of offices at Berkshire Life Insurance Company, by Designs for Business, Inc., shows the distinction and flexibility possible with modular construction.*

OFFICE PRODUCTIVITY

clerical productivity has increased 25 per cent because of recent changes in office layout and organization planning." One non-manufacturing company says, "We know that layout changes have contributed to increased efficiency in at least two departments, although we cannot specify the percentage increase. One department, however, has handled a 100-per cent increase in volume with a 16⅔-per cent increase in personnel."

Of companies which had made improvements, however, 65 per cent said they had *not* been able to determine the effect, if any, on efficiency.

One manufacturer after another says, in effect, "We're sure the changes contributed to employee comfort and morale, and probably to efficiency, but we can't measure it."

"It has helped attract higher caliber personnel, but I don't know what, directly, office improvements have done to efficiency," one executive reports. A large manufacturing company office manager says, "We're convinced improvements in furniture, lighting, and air conditioning have increased efficiency, but we simply have no way of measuring office productivity statistically."

A recent survey of almost 2,000 companies made by the National Office Management Association revealed that almost three-fourths now have sound control, air conditioning, fluorescent lighting, and pastel colors in their offices. Approximately 62 per cent meet the Association's standards for office space allocation.

However hard it is to prove the beneficial effects of Danish modern on a typist's speed, some experts say that more prosaic improvements do have a demonstrable influence on productivity, although research in the field is still slim. For instance, in a controlled test a few years ago, the Government's General Services Administration installed air conditioning in one of two wings of a building where clerical workers make file searches. The work done in each wing was measurable and comparable. After installation of air conditioning in

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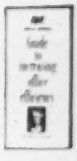

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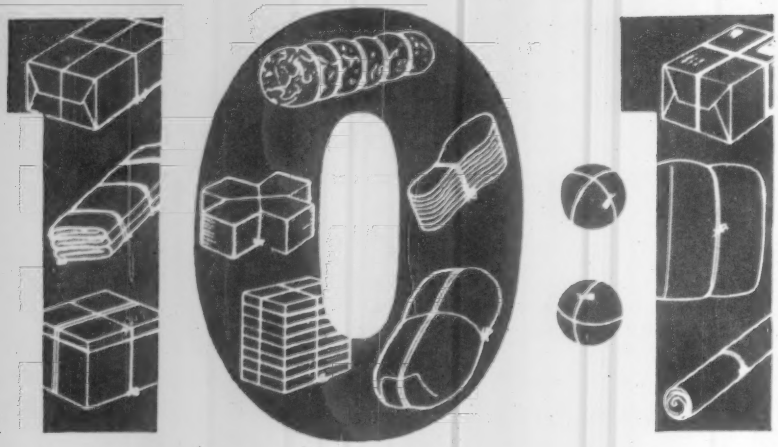

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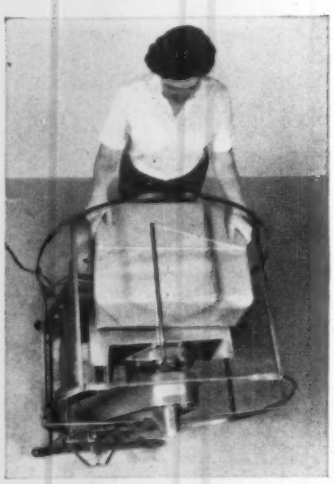

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one wing, productivity moved up an average of 9.5 per cent over the production rate in the non-air-conditioned control area.

A series of other Government tests have shown that higher light levels pay off. In different bureaus, production efficiency improved 3½ per cent, 5½ per cent, and 8 per cent with installation of better lighting.

Questioned on the benefits of sound reduction, 75 per cent of the respondents to the National Office Management Association survey reported they had sound control, though only 10 per cent rated it as excellent. But 43 per cent said it improved employee moral, 29 per cent said it increased accuracy, and 16 per cent said it increased the volume of work done.

The same managers were divided

Exploring the Possibilities in Space

Office space planners and layout experts point out that every foot of the office should be utilized as efficiently as possible in these days when a 3x4-foot closet may cost $1,600 in rent over a 20-year period. Says Nathaniel Becker of Becker and Becker Associates, industrial designers:

"Space planning is the only proper starting point in designing new offices. It is the scientific determination of requirements through careful analysis of functional relationships, work flow patterns, individual space requirements, and many other factors. This 'skeleton' of the office environment then is clothed with lighting, acoustical treatment, air conditioning, and color—all chosen to achieve maximum productivity. But unless all of these elements are applied to a layout based on functional requirements — planned space — they cannot, by themselves, be fully effective."

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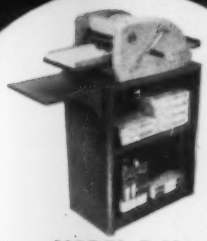

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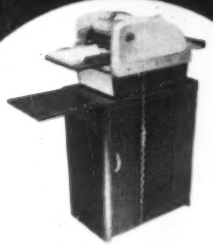

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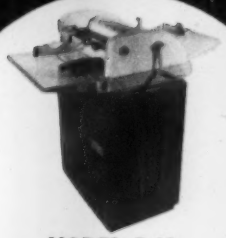

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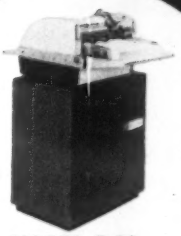
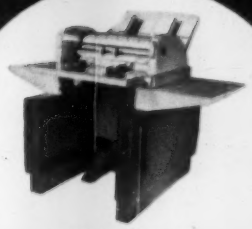


MODEL D-70
Electric, 14- or 18-inch size.



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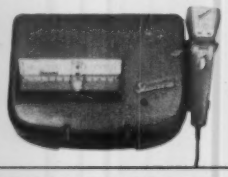

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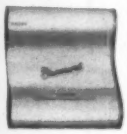

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OFFICE PRODUCTIVITY

in their attitude toward background music in the office. Two per cent said they would not do without it. Twenty-seven per cent like it, but 19 per cent do not care for it. From the productivity point of view, 7 per cent of the managers felt background music increased the work output, and taking just the opposite point of view, 4.5 per cent felt the work output was reduced by distraction caused by music.

Some companies which have transformed their office environments dramatically say they note a definite reduction in the absentee rate, fewer latenesses, and less turnover.

President T. M. Ware of International Minerals & Chemical Corp. states a typical chief executive's point of view. He says, "It's good business to provide a good place to work. The employee's general well-being and pride in the company will be reflected in over-all corporate attainments." Since moving to new headquarters, IMC has found that "turnover is definitely below previous levels" and that absenteeism is also somewhat lower.

Ralph Stoetzel, Chicago industrial architect, believes that "office environment definitely affects productivity, not only for executives but for clerical and technical people as well." His work in designing equipment, lighting, and more efficient use of space for the new installation of the Systems Engineering Division of Kellogg Switchboard, Inc., resulted in an almost immediate increase in work output.

Art Darr, plant engineering manager of Kellogg, also reports, "An immediate improvement was noticed when the division moved into this new layout. In some sections that had been particularly crowded before, increases in productivity close to 50 per cent have been reported."

Some of the men who have been instrumental in the office environment revolution point out that no matter how expensive a new office building, its cost can never equal the first ten months' payroll for the men and women who work in it. If good plan-

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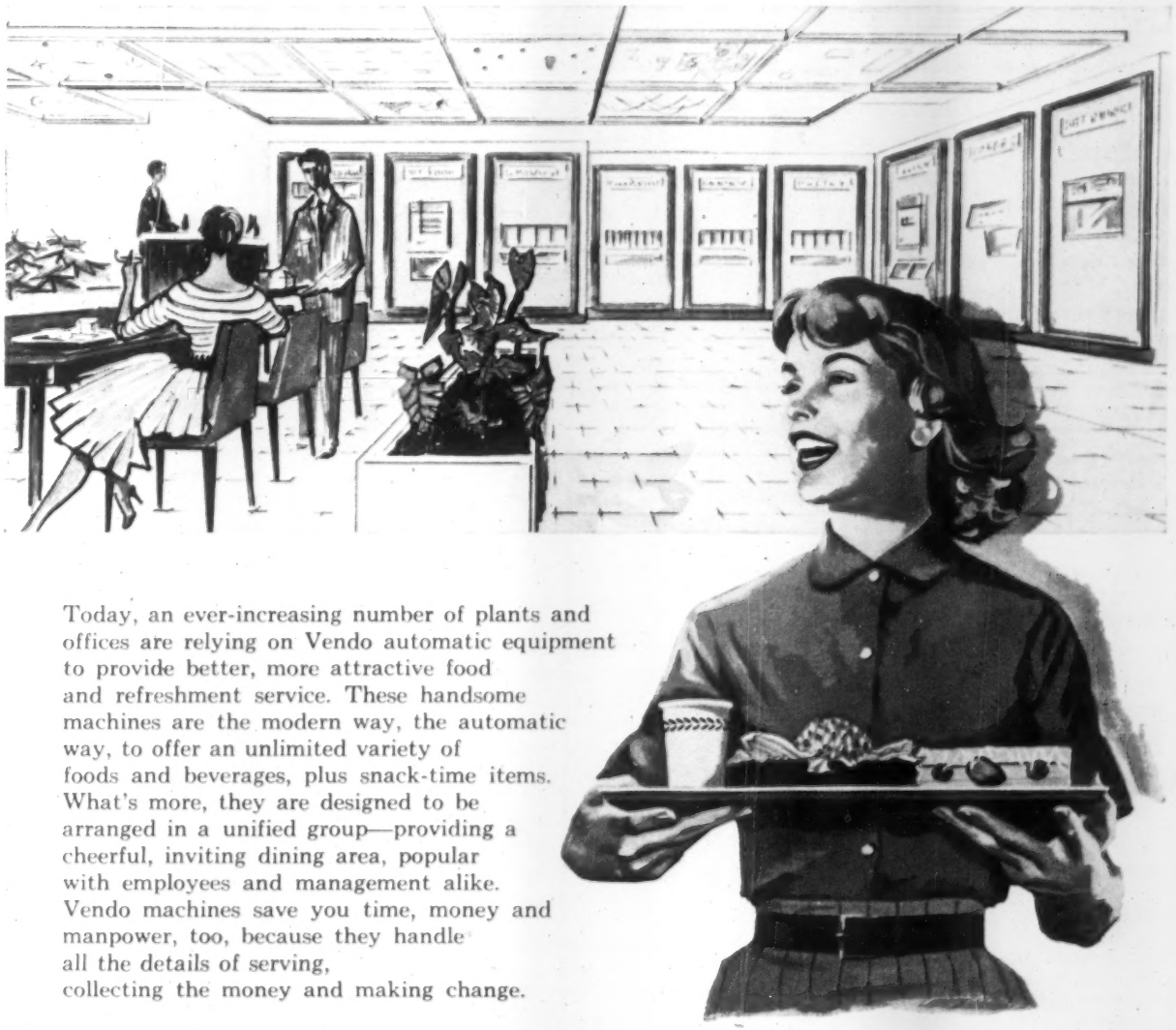

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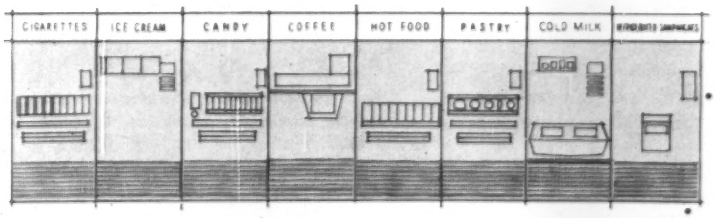

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ning and design can increase the productivity of the office worker by just 10 per cent, the building can be considered "free and paid for" in less than a decade.

Nor is moving to new quarters the only solution available when offices become cramped. Upon analysis, many companies have found their problem is not lack of space but misuse of what they already have. Architect Robert Taylor of Oak Park, Ill., cites a brass foundry office remodeled by his company: "A 20-per cent-increase in office efficiency resulted merely from the reorganization of space and the placement of partitions."

Saving space and money

Dollar-conscious top managements are now alert to the role that competent office layout experts, interior designers, and architects can play in cutting costs.

Space planning has led to designing an office building from the inside out for top efficiency. When Union Carbide Corp. began planning its new skyscraper in New York, the company made a detailed space analysis. As a result, lighting, air conditioning, sound control units, and ceilings and partitions were constructed throughout the building in single, integrated "packages." Union Carbide estimates that such space planning saved top-price space and will permit greater savings when alterations must be made.

Experts believe that perhaps 50 per cent of the office layouts now done are inefficient because they are not drawn by professionals. Almost every major interior designer or office architect, however, calls for space studies, although some go into more detail than others. At one end of the scale, some space planners investigate the actual work done at each office work station, and general systems and procedures. As a result of their studies, they may suggest revamping the organization of work and procedures used before planning space changes.

At the opposite end of the scale are the planners who simply determine where management wants to put people in relation to other people, how many people are involved, and what expansion factors they must take into consideration.

Like the space planners, interior designers have brought all kinds of

Kenneth H. Ripnen, A. I. A., President, Kenneth H. Ripnen Co., Inc.: ***"Planning must be based on knowledge of all facets of the organization, architecture, and engineering."***

Howard Park, Manager of Real Estate, Socony Mobil Oil Company: ***"With good lighting and design, inside space can be used for executive or semi-executive offices."***

Richard Forster, Manager, Facilities, Community, & Industrial Planning Services, Ebasco: ***"Good space planning doesn't necessarily result in efficient operation, but it removes obstacles to efficient operation."***

J. Gordon Carr, A. I. A., Principal, J. Gordon Carr & Associates: ***"Management is realizing that offices must be planned for function rather than status."***

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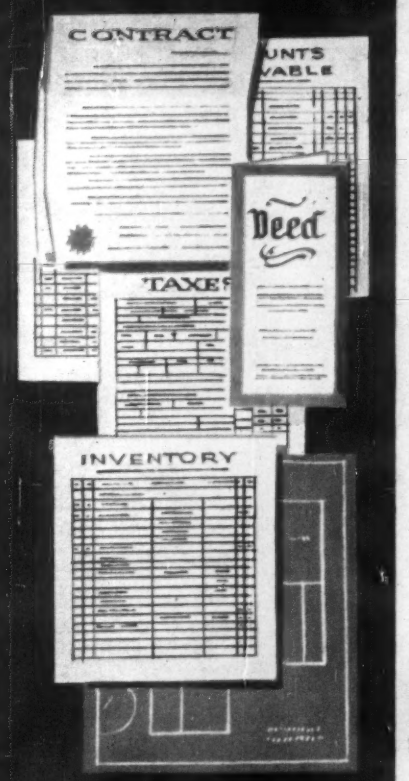

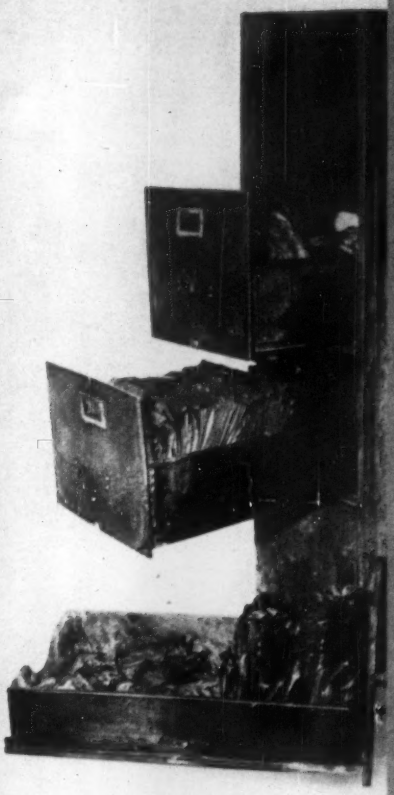

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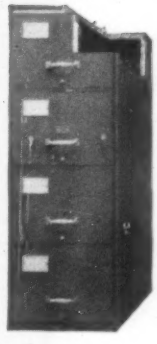

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specific improvements. Under their impetus, lighting has been diffused and stepped up in intensity. Carpeting, one of the most efficient acoustical materials, is being used throughout some buildings.

Office furniture, conventional or functional, is often constructed with its own partition to fit a module. The module itself has become a favorite tool of the architects. It calls for construction of building facilities—lighting, air conditioning, acoustical control, and underfloor ducts—in repetitive standard area units. Taken to the extreme, in an office planned around modules, everything from furniture to machines would be constructed to fit the basic area unit or some multiple of it.

Today there is general agreement that cramped space and dismal surroundings impose restraints on work, cause distraction, decrease efficiency, and generally impede productivity. But what happens when the space has been planned, the building built, the office turned into a marvel of modern equipment and comfort?

That, of course, is when management takes over. As one space planner said, "We can't make anybody work. We can just make it possible for people to work at their best."

For companies fighting to cut rising clerical costs—fighting to save the cost dollar that equals the profits on a hundred-dollar sale—that should be enough. —J.R.M.

Trailblazers in Office Operations

Whatever their titles, creative controllers of office operations are reaching out for fresh solutions to the persistent problems of paperwork. From here to page 110, you'll find case stories of companies that are discovering new paths to profits by pioneering in office operations.

Streamlined Billing

Many companies, particularly those that have set up across-the-board programs to slash overhead costs, discover that the cheapest way is not always the best way in office operations. Rarely can a company make important reductions in the cost of office operations while improving the quality of the information produced and giving better service to its customers.

One of the few exceptions to this rule is a major trucking outfit which is now keeping all three balls in the air at the same time.

In the past few years, the nation's truckers have done much to improve service to shippers in the face of steadily ballooning costs. New up-to-date rolling stock, mechanized terminals, and the application of closed-circuit television to the handling of shipments have all led to better service.

But the many documents needed to move shipments across the country have remained a drag on efficiency. Today, about one-third of the cost of handling a shipment—particularly if it is small—goes for paperwork. Not only has proliferating paperwork added steadily to costs but, in addition, errors on freight bills have hampered both truckers and shippers.

For example, a major manufacturer of photographic equipment recently tallied the errors that turned up when shipping instructions (as shown on bills of lading) were compared with the freight bills rendered by four trucking companies. When the 4,000 bills of lading and as many freight bills were studied, 1,941 instances of error were discovered.

Necessary facts

The bill of lading, made out by the shipper, contains the names of shipper and consignee, the description of the shipment, the methods of payment (prepaid or COD), special handling instructions, the consignee's order number, and other information.

When a shipment reaches a freight terminal, this information is copied on a freight bill—the order on which a shipment moves and by which the carriers present proof of service performed.

Many shippers have discovered that errors in copying the shipping instruction on the freight bill can bring a variety of problems:

- Lost shipments that customers may badly need
- The consignee's refusal to accept delivery if the description of the goods shipped or the terms of freight payment are wrong
- Tracing difficulties if the trailer number or the shipper's number is wrong
- Real damage to the goods through garbling or omitting special shipping instructions, such as directions to protect from heat or pressure.

The study of the 4,000 freight bills showed that 444 had wrong trailer numbers, 381 didn't have the proper consignee order number, 226 described the shipment incorrectly, 180 carried a wrong shipper's number, 29 had an incorrect name and address for the consignee, and 23 had even the shipper's name and address in error.

Eliminating such mistakes is a major job in itself. But in addition, truckers want to attack the steadily rising cost of preparing freight bills, which is now running at the rate of $40 million a year for common carrier truckers. To lick both problems at the same time, Consolidated Freightways, Inc., in Portland, Ore., recently

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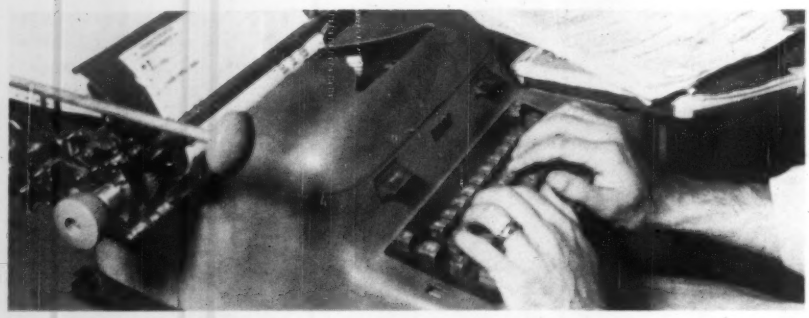
OFFICE PRODUCTIVITY

introduced a system that has cut the cost of preparing each freight bill in half. The company expects a yearly saving of $500,000 when the new system is used throughout its operations and in interline shipments.

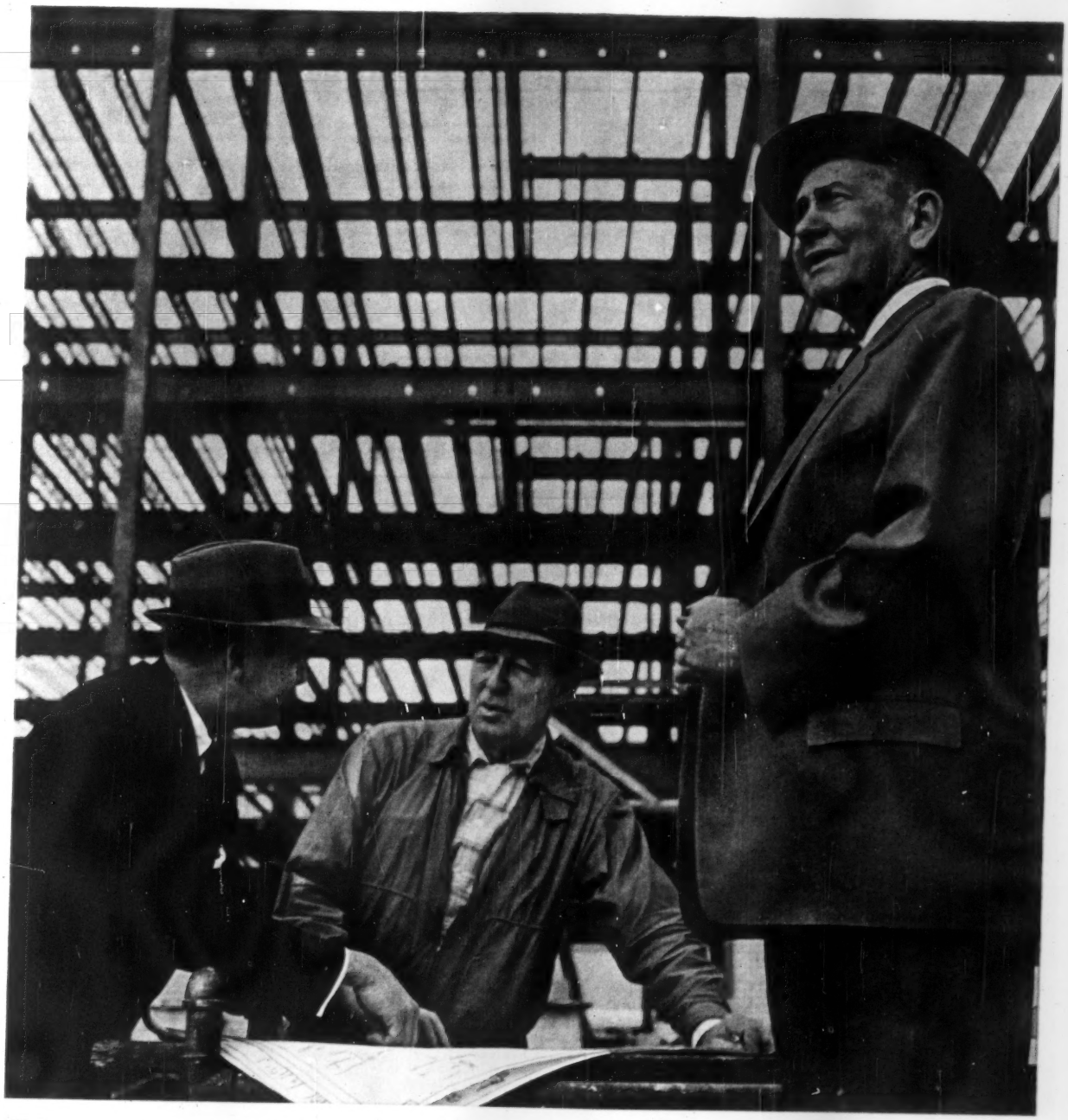
The new system also reduces costs



WITHOUT CHANGING *his methods of preparing bills of lading, a shipper uses the new triplicate form that has as its second sheet a Multilith master, which can provide an almost unlimited number of copies.*

AFTER A SHIPMENT *has been loaded in a trailer at the trucker's terminal for a long haul, the loader writes the trailer number on the master so that tracing will be simplified.*

BY RUNNING *the master on a duplicating machine, one person now does as much work as ten did before when the information from the shipper's bill of lading was typed out (with other facts added at the terminal) on multi-carbon freight bill forms. The copying method is entirely error-free.*



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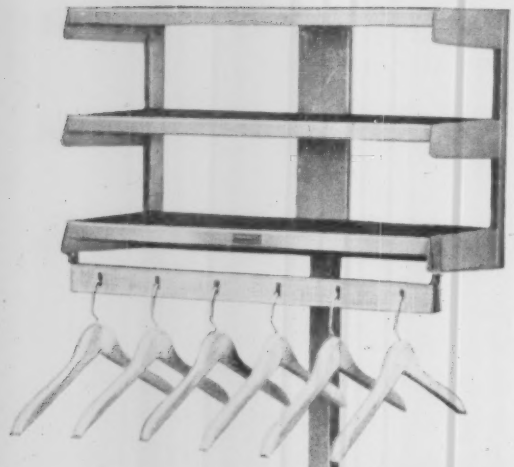

Model E6

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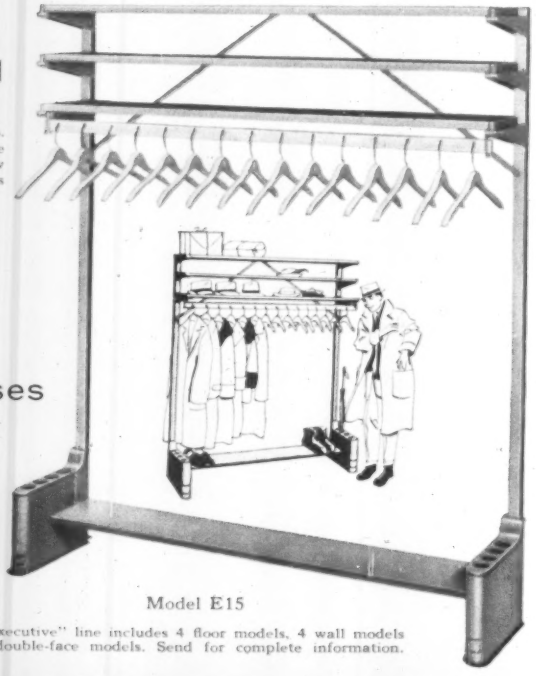

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for the shipper. It is no longer necessary for him to have scores of clerks check shipping instructions against the freight bills before payment to the trucker is approved.

In addition to banishing errors and eliminating an entire paperwork operation—something much more profitable than merely boosting the output of an unneeded operation—the new freight billing system simplifies the auditing of freight charges, since one document now takes the place of two.

Under the new streamlined system (which Consolidated Freightways developed with the help of Standard Register Company and Addressograph-Multigraph Corp.), shippers are provided with a slightly redesigned three-sheet bill-of-lading. The second sheet is a Multilith duplicating master that picks up its impressions from the carbon interleaf. As usual, the shipper can give his shipping instructions in pencil, pen, or by typewriter.

First and final form

The Multilith master sheet goes with the driver. The shipper handles the two copies just as he did in the past, mailing one to the consignee and keeping one on file for tracing the shipment, if necessary, and for checking the final freight bill.

After the shipment is loaded at the terminal, the trailer number is marked on the master. As before, the bill of lading is then rushed to the rate clerk for computation and recording of changes, which go right on the master.

But, in place of the rows of billing clerks waiting to copy the detailed information on six-to-ten-sheet freight bill forms, there is one operator at a Multilith duplicating machine, which provides all the copies needed to serve as the delivery receipt, the consignee's copy, the freight bill invoice, the destination terminal copy, and so on.

Since the loaded trailers are waiting to go, under the old system the typing required was done under intense pressure. The usual output was between 50 and 70 freight bills per hour per clerk. Errors in copying information often occurred, and labor

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OFFICE COPIER

costs were high because the billing clerks usually received premium pay for night-shift work.

When interline shipments are involved—and at least 30 per cent of all shipments are interline—a new master is automatically produced as a by-product of the duplicating process and is sent along with the freight bill set carried by the outgoing driver. This eliminates the rewriting of all information at junction terminals, which in the past opened new opportunities for error.

Consolidated Freightways' experience is another indication that heavy investments in intricate data processing equipment are not necessary to achieve important savings in office operations. By following the approach of integrated data processing—that is, capturing the information at the point of origin and avoiding subsequent rewriting—the company has been able to reduce cost by boosting paperwork output ten times over, while eliminating errors at the same time.

The trucker's freight bill prepared by typewriter is analogous to the production order prepared by the manufacturer. And the fact that even under the now-outmoded system the freight-bill invoice was prepared as a carbon shows the progress already made in integrated data processing by most truckers, in contrast to that of many manufacturing companies where customer invoices are still prepared individually and not simply as a by-product.

This is a straightforward example of one industry's strenuous efforts to streamline paperwork processes so that they can catch up with the long strides made in materials handling techniques. It may well presage significant progress in paperwork for all companies that are looking for better ways to get their goods to market.

—T.K.

Latex Launches an Office Revolution

Taking an entirely fresh look at the traditional corporation office, International Latex has started to reorganize old functions into an integrated, computerized system keyed to a central information flow.

By 1965, International Latex Corp. expects to have its office operations reorganized around a central information flow, built around a computer and more efficient and productive of the fast information that management must have to manage.

Better computers—and taking a whole new look at the office—have led Latex and a few other corporations to concepts of office organization that go far beyond using machines merely to serve specific departments or to do more efficient accounting or recording.

Believing that office organization today is often archaic, Latex has drawn up plans that may change the office as much as Henry Ford changed the factory.

International Latex has its headquarters in its big Dover, Del., plant. The company makes a number of products, including pharmaceuticals, ethical drugs, industrial chemicals, brassieres, girdles, and gloves. It has expanded continually since 1932, when it was established by A. N. Spanel, now chairman of the board, and is now a wholly owned subsidiary of Stanley Warner Corp.

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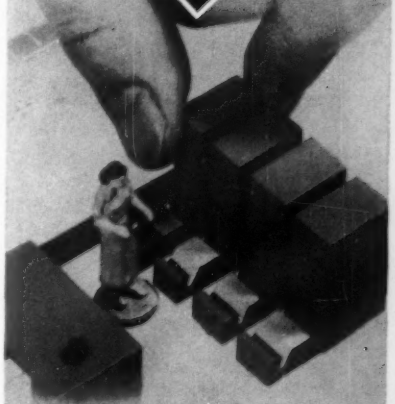

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OFFICE PRODUCTIVITY

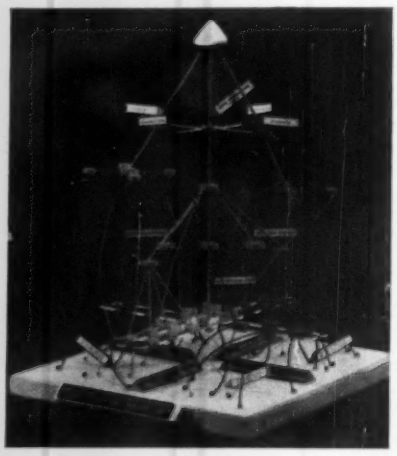
group at Latex is Lionel E. Griffith, assistant controller, who is responsible for machine data processing, credit, accounts receivable, customer service, and sales service. Joining Latex in 1956 after doing statistical, research, and machine data processing work in a number of fields, he came with some pointed ideas about how office operation should be organized.

Griffith says, "Present office operations are limited by the organizational concepts which brought them into being. Nearly all of them center on the manufacturing, marketing, and financial operations of the business, with emphasis usually placed on one alone.

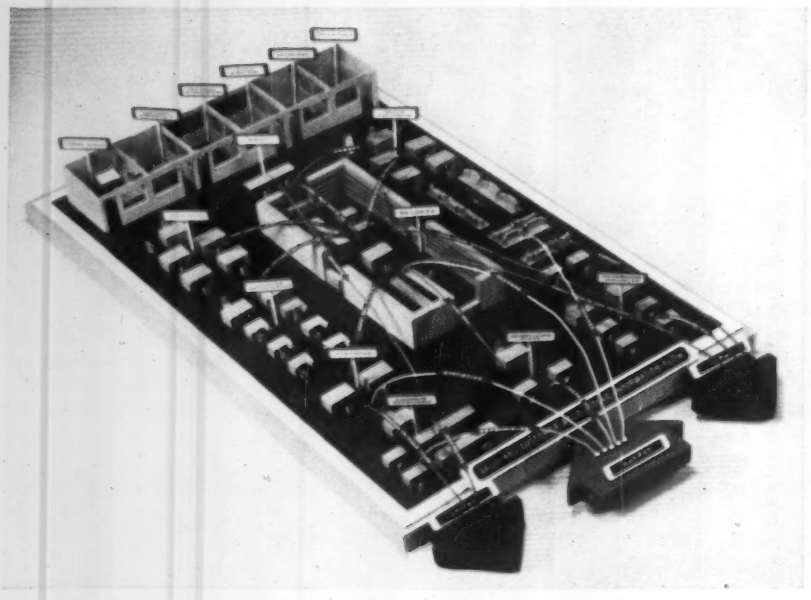
"Methods of organization which were acceptable yesterday no longer suffice. Many new and important areas have developed. We cannot rely on organizational structures that are primarily by-products of just one operation. We should think of the company's office operations as a totality, not as an expression of special areas."

Latex began studying its whole organization in terms of the informa-

Systems in 3-D



Shown here are two three-dimensional models developed by Lionel E. Griffith of International Latex to show the office reorganization under development. The schematic vertical model, left, demonstrates the flow of information from the bottom into the central hub and upward to decision-making areas. The physical model, below, shows the layout and organization of one of the four basic information systems. Output from the central hub feeds needed information in from the right. The information—such as statistics, receivables, and invoices—is handled along with orders, customer correspondence, etc., and the resultant information is fed back into the hub.



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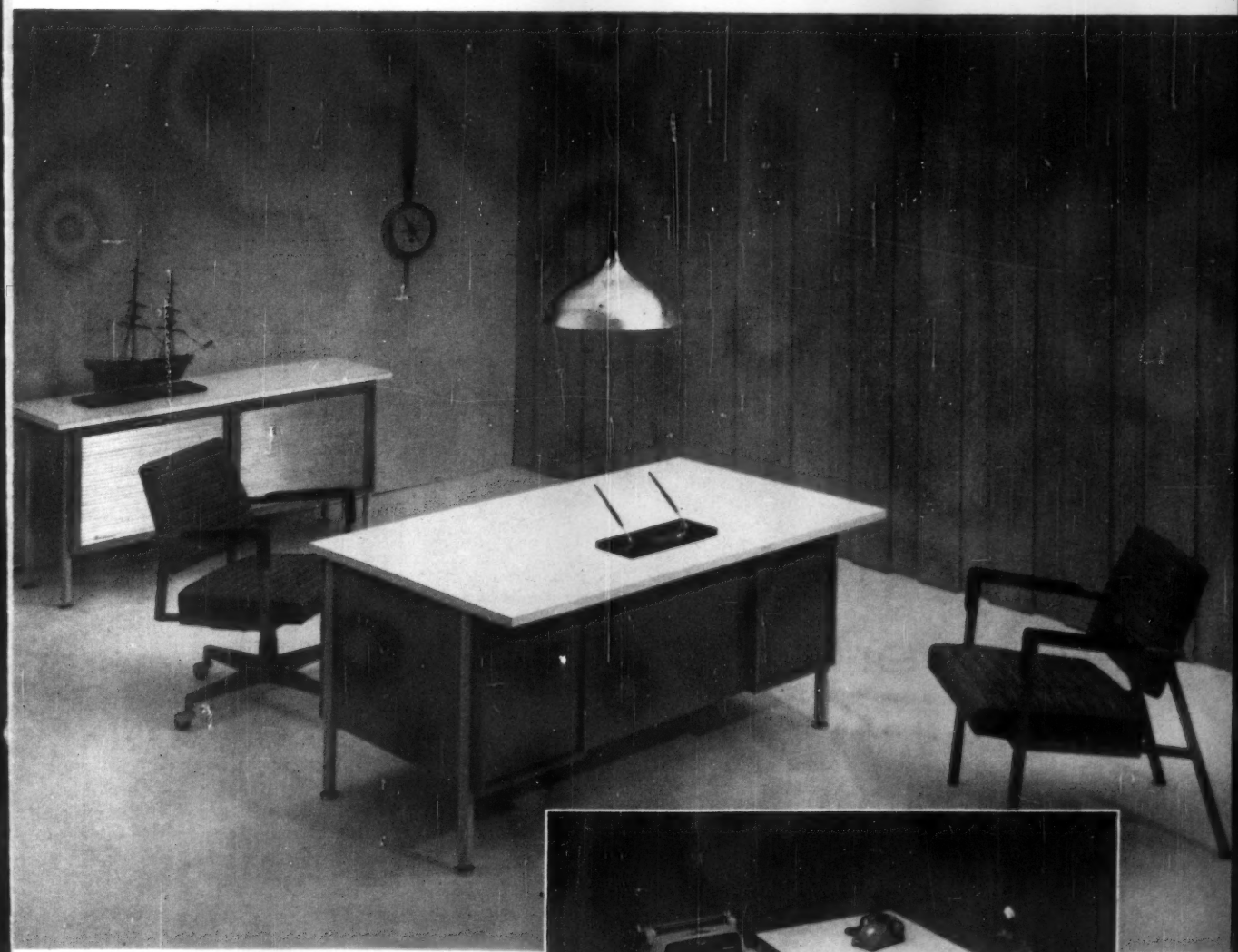

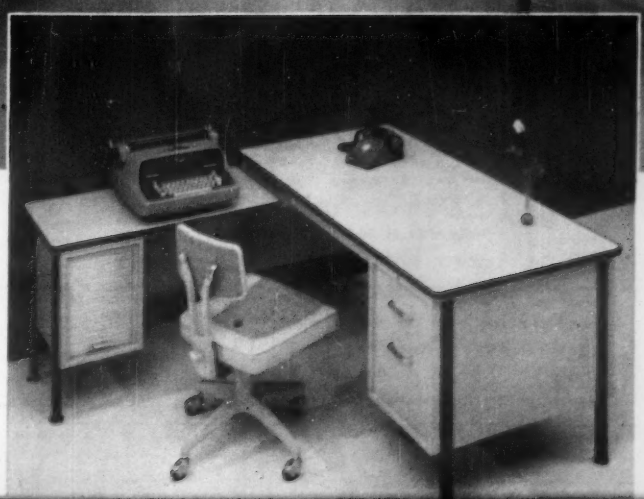

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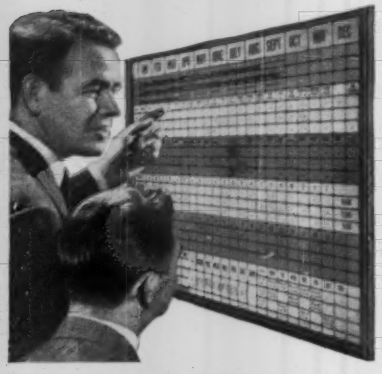

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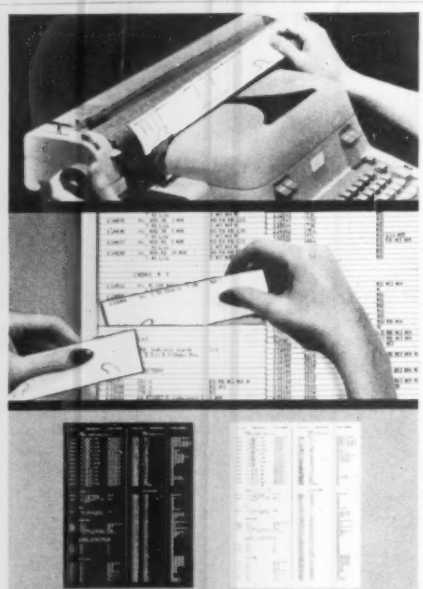

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tion flow which Griffith believes is the very "fabric" of a business.

In any company, there are a limited number of areas of "natural" information. Each of these forms a chain of operations from which by-product information can be extracted. Latex's basic information flows are:

- sales and customer service
- production and inventory control
- payroll and labor accounting
- material and payables accounting.

There is also a fifth flow, which is essentially a by-product of the others —information about customers, vendors, products, territories, and the like.

These flows are not necessarily independent of one another. For instance, billing information from the sales and customer service flow is linked to production and inventory control.

Because pre-billing and post-shipment accounting were two major areas in programs and office operations, they were used by International Latex for its first venture into machine data processing with the computer.

Ready to go

After considerable study, an IBM 650 medium-size computer for those two areas was installed in 1957. Since then, the corporation has steadily advanced toward its objective of a complete information flow which would feed information in and out to various functioning groups. The broad outlines have been drawn, the steps are being plotted. Considerable savings in terms of office productivity have already shown up, and the goal is in sight.

The computer itself is not essential for the kind of reorganization under way, but its great speed and efficiency in handling data strengthen the process.

Griffith calls the projected office reorganization a "hub" structure. With it, all the flows of natural information, such as sales and customer service, are fed into the data processing core. Control of the mechanical col-

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OFFICE PRODUCTIVITY

lection and storage and production of data is separated from the working areas of the business which use the data. The accountant is no longer a bookkeeper recording figures. This the machine does, freeing him to work on ways to finance inventory or new product development. Manufacturing specialists can deal with production processes instead of statistics.

Under the reorganization, specialized areas of manufacturing, finance, sales, and the like will determine what data they require, demand it from the data processing hub, evaluate the adequacy of output data, and use the information for control.

Installing the IBM 650 for the two information flow areas called for taut organization. Because of the intensive study, charting, pre-testing, and cooperation that preceded the installation, Latex was able to change over in one weekend. Within three months, it was getting 90-per-cent use of the equipment on a one-shift basis.

Fewer people working faster

By 1958, the office force in three departments numbered 190. But despite the fact that work for seven new people has been created, and the workload has increased about 30 per cent, there are only 166 employees today. Meanwhile, the average time to process an order was cut from over five days in 1957 to a single day in 1959.

This year, Latex stepped up its new program. The automation work-study group has drawn up an extensive, eight-page questionnaire for interviews with all the company's managers.

The questionnaires are aimed at finding out how well office operations are satisfying actual information needs, where managers feel they could supply more useful information, and the major areas open to immediate mechanical treatment. The collected information will be translated into punched-card form for complete analysis and study. New systems then will be designed around the central information flow, and equipment

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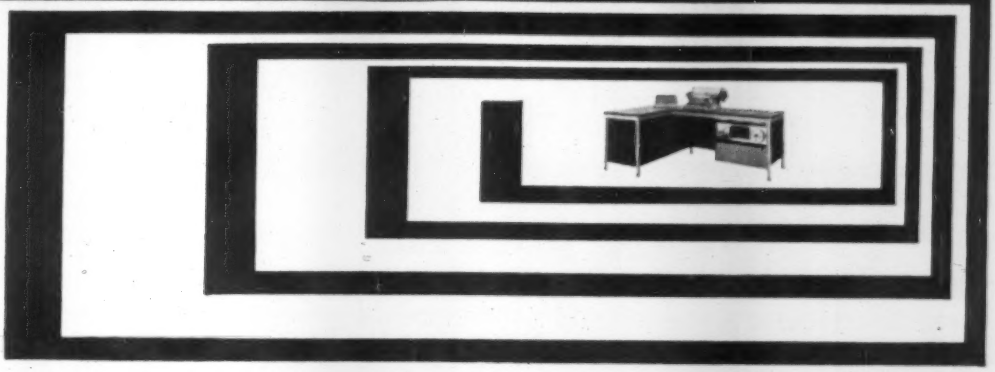

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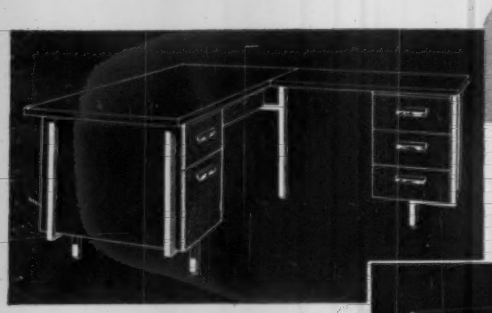

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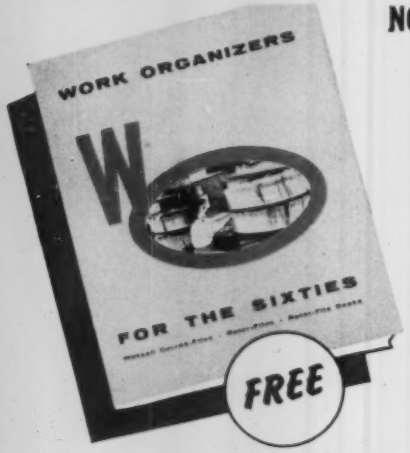

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—National Machine Accountants Association, January 1960

"In manufacturing industries, the rate of growth of non-production workers since 1947 has been about 15 times that of production workers."

—Office Equipment Manufacturers Institute, September 1959

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needs can be estimated in advance.

Griffith believes the data system should be continuously redesigned to meet changing needs, and he is now planning to set up a "war room," where special models will show each subsystem in three-dimensional forms. These models will be used to study the whole structure, the fit of various systems, and to work out systems that can finally be tied into one over-all system without dislocations.

Each system, such as the sales and customer service flow, is broken down into specific detail and charted. A physical pilot model is constructed of the data flow. All data, forms, reports, input and output, numbered codes for the systems, and so on are assembled for the cases under study. Link areas are indicated, where the central information flow ties into other flow areas. Finally, computer programs are written from the model, then tested and evaluated.

Over-all glimpse

Griffith also is working on a display which will show the information flow system as it works throughout the company and translate the final data into chart form for top executives. Movements of data, as well as the total company organization, will be shown in models and charts in the "war room," where segments of the main model will be broken out to show more precise data flows. Adjacent rooms will provide operations research and systems departments with immediate access to the total company system in miniaturized form.

Griffith predicts that Latex's complete information system will be reorganized, step by step, within about four years. These same years, he believes, will see many other companies recognize that all office operations are interrelated—that they form, in essence, a data, information, and intelligence apparatus for the company. The next few years, he thinks, will see radical changes in office operations—organizational rather than simply "hardware" changes.

"The fact of the matter is," he says,

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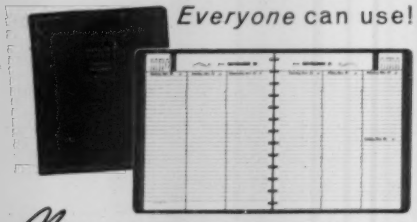

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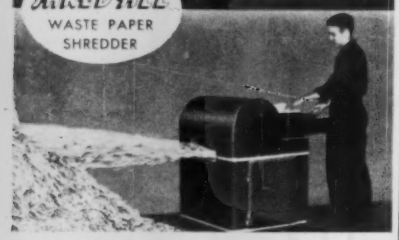

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"that the three most important events in the development of Western business are the industrial revolution, automation of factory processes, and the advent of the computer. The revolutionary impact of the computer on business in general has not been recognized.

"Management does not yet understand the extremely powerful nature of the tool which, over the course of relatively few years and virtually at one stroke, will change data, information, and communication processes throughout industry.

"All companies are going to be obliged to have such intelligence systems," Griffith believes, "if they are to grow and compete in the new business world." —J.R.M.

Hidden Profits in Data Processing

When a fast-growing steel products company studied data processing for its accounting operations, it discovered another, far more valuable use for the equipment. Using its punched-card system to pinpoint marketing and sales strategy and operations, the company has more than doubled its business without losing management control of independent branches.

The L. B. Foster Company, of Pittsburgh, went into punched-card data processing to reduce the paperwork in its accounting department, but it soon found that the greatest benefit would result from the availability of new information for management.

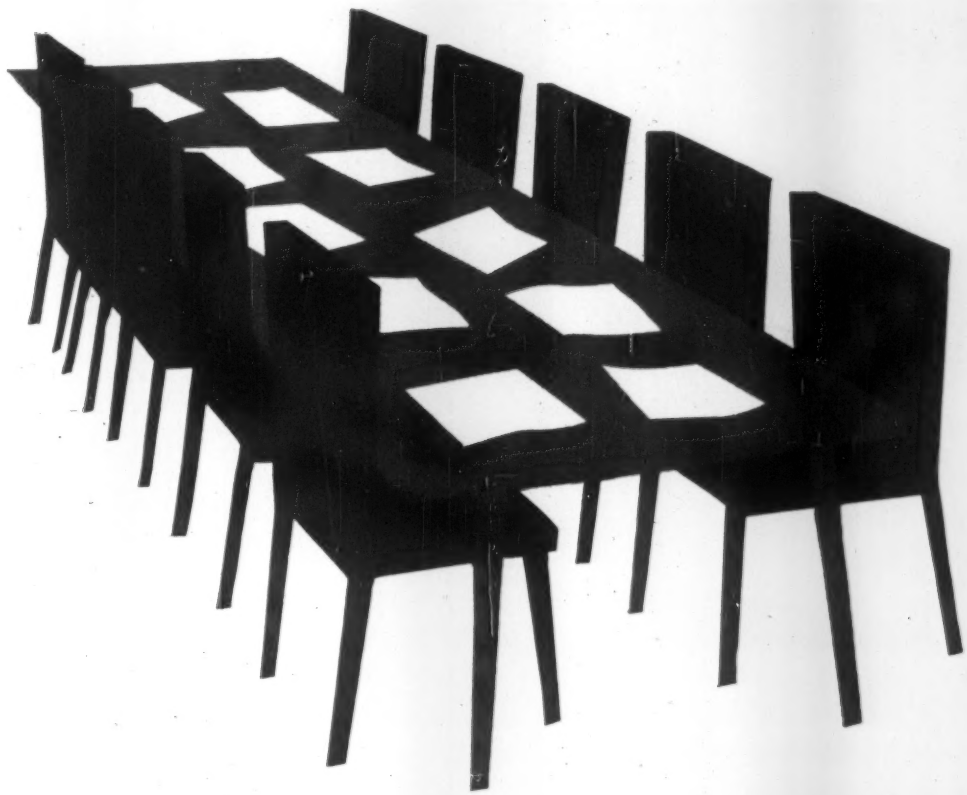
The company—which warehouses rail and track accessories, steel products for heavy construction and highway building, and pipe, valves and fittings—had built a multi-million dollar business by 1955. Sales that year jumped 48 per cent. When management first reviewed operations, however, it found it had no hard current figures except total sales figures for each branch office. Sales in the three major product lines and overall profits were tallied only in the six-month and annual statements.

Each branch office still is responsible for a completely integrated operation, including sales, buying, stocking, and service. But as a result of the new system, the branches are handling increased sales without additional paperwork and with little supervision, despite the many more reports now available for management.

Foster headquarters uses standard punched-card equipment rented for about $2,000 monthly. When designing the cards, Foster redesigned order forms, invoices, purchaser orders, and the like to leave room for a full description of customer, vendor, and transaction.

Foster has all items for certain reports printed in full as well as summarized. Punched cards representing every invoice item for the previous month, by office and product category, are sorted and collated. From them, the sales and gross profit report is printed each month.

The printing of full reports as the basic data operation highlights an



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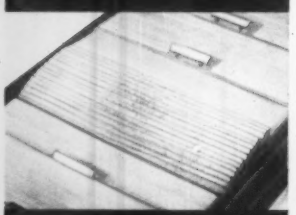

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easily forgotten fact of business life: every transaction affects profitability. The use of full reports has improved administrative procedures in the branch offices. They also serve as a check on billing and accounting procedures. When the system first went into effect, several variances in profitability were traced to errors in shipping and billing methods.

Two summary sales and gross profit reports are used by management.

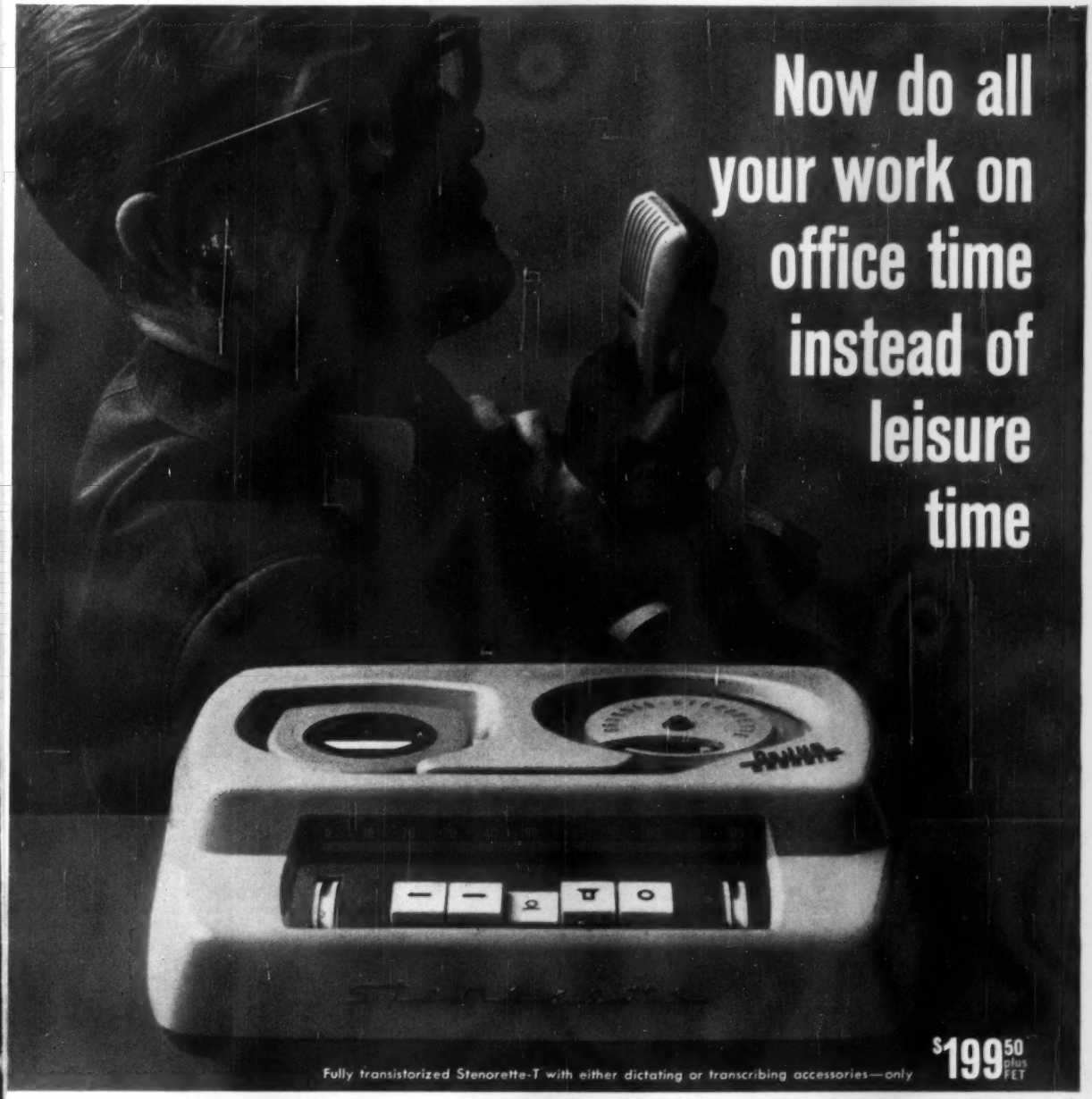
The first, giving figures for the year to date and comparative figures for the previous year, is used to evaluate current business operations in general. The second provides a summary of 93 major products and tells the company where to concentrate sales and advertising efforts by pinpointing weak and strong spots.

Pinpointing of markets by data processing paid off in a big way in 1958 particularly, when—despite an over-all decline in customer industries—Foster sales actually increased in 21 states.

So far as administration goes, use of the punched-card system has greatly simplified internal communications and clerical work. Sales have gone up 150 per cent (last year they were over $30 million), the number of salesmen and headquarters executives has increased more than 100 per cent—but the total number of other salaried employees increased only 39 per cent.

—J.R.M.

MARKETING DATA: *L. B. Foster Company uses complete data in its first-step report for marketing information turned out on the tab card system.*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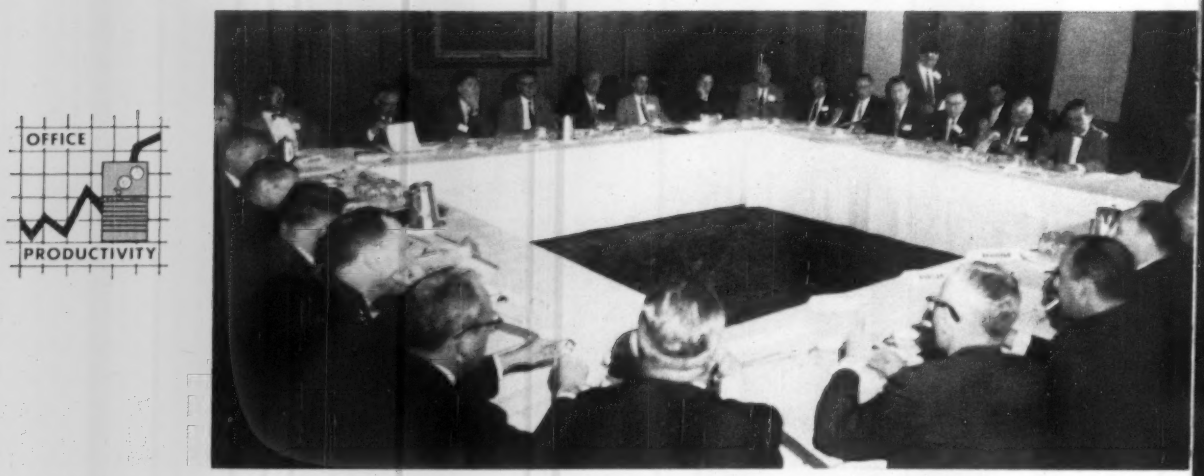

Roundtables Back Up Editorial Research

In three day-long roundtables conducted by editors of DUN'S REVIEW, executives close to office operations freely discussed the problem of improving office productivity:

Among their conclusions:

- Clerical productivity runs at about 50 per cent of capacity in most companies
- Lagging productivity is linked to the absence of work performance standards
- Many companies go wrong in trying to boost office productivity without any revision of outmoded procedures
- Mechanization must be preceded by a thorough cleanup of systems and procedures—and followed by more effective office management.

New York

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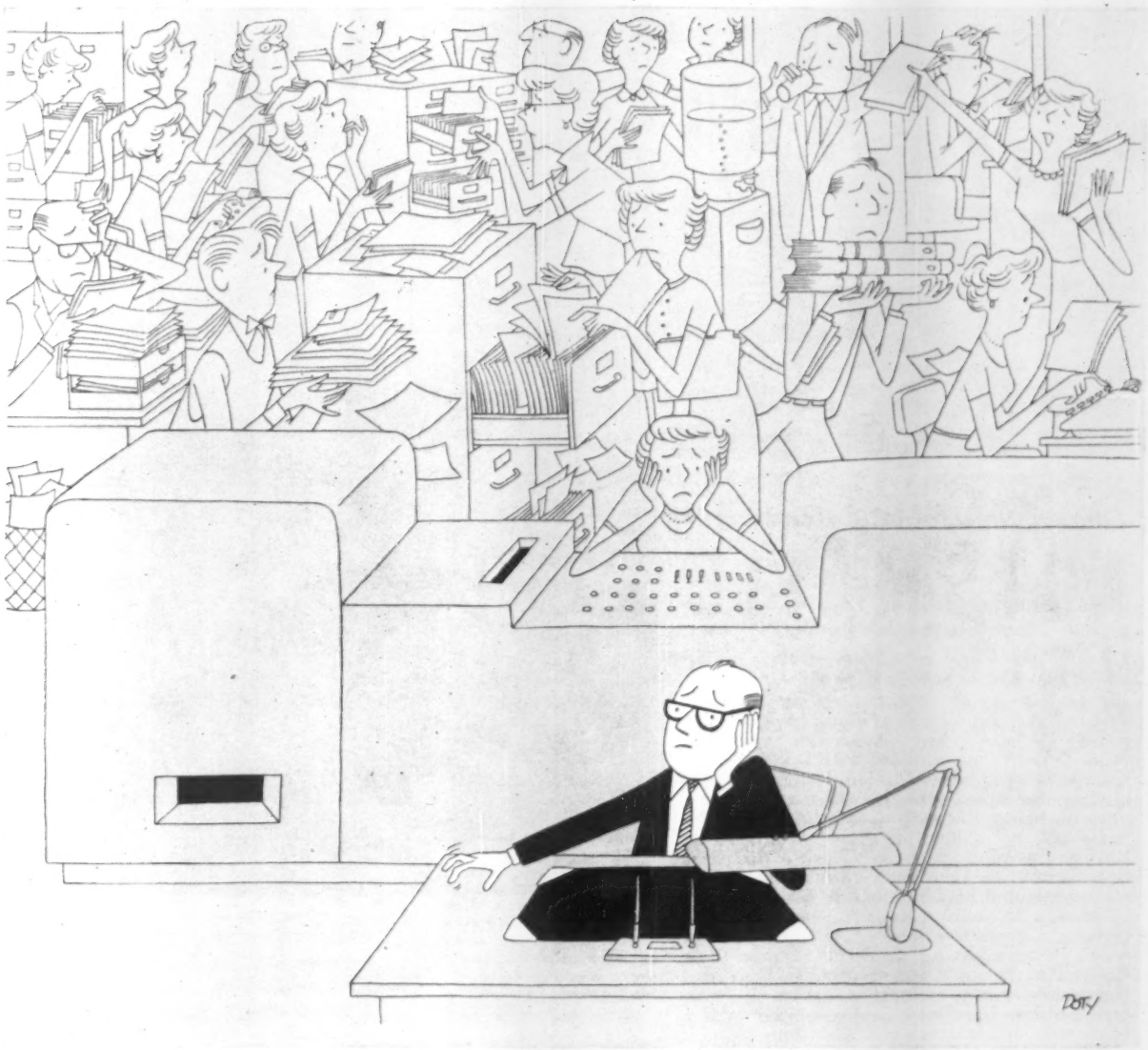

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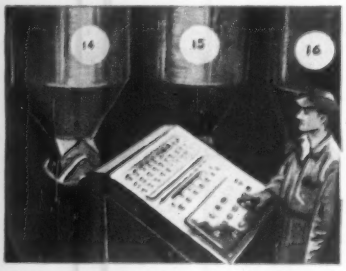
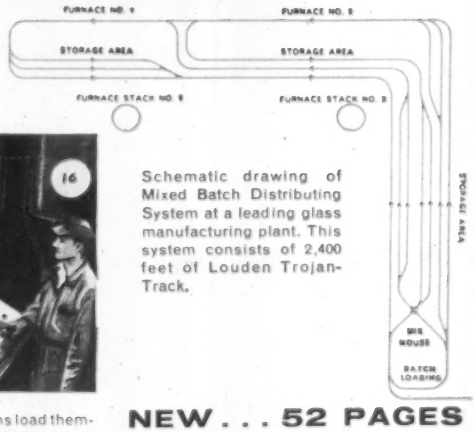
Storage area of Mixed Batch Distributing System at a leading glass manufacturing plant. Operating over the system are 29 Louden Selectomatic Moto-Veyor propelled trains of 6 batch cars per train.



Operator dispatching train. Trains load themselves, transport the load, store the load until needed, and then unload at the designated furnace all automatically.



Schematic drawing of Mixed Batch Distributing System at a leading glass manufacturing plant. This system consists of 2,400 feet of Louden TrojanTrack.

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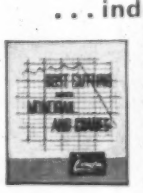

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Managing Your Manpower

LAWRENCE STESSIN

Which works better in curbing absenteeism—the carrot or the stick? Here are some tips on solving an irksome, costly problem.

A hardy perennial in the broad acres of management problems is absenteeism. In good times and bad, in new companies and old, among white- and blue-collar workers, there runs a common thread—some employees would rather do something else than come to work.

Not all absenteeism, of course, is of the goldbricking variety. Occasionally someone's aged grandmother does die when the baseball season is on, or real personal problems prevent workers from showing up on the job. But whether the reasons are fair or feigned, absenteeism disrupts the smooth flow of work, causes rescheduling headaches, and riles supervisors' tempers. For it is the boss who must bear the brunt of the sticky situation caused by a hole in the workforce.

Management's traditional approach to "stay-awayism" has been twofold—positive and disciplinary. The current positive gimmick is a kind of "payola": An employee whose attendance is above average can reap extra benefits. One company, for example, gives a week's extra pay to the worker who has a perfect attendance for a year. Another hands out an extra week's vacation to those who have showed up every workday for 12 months running.

Bonuses based on earnings aren't uncommon as an incentive for employees to show up with regularity. Non-monetary rewards include letters from the company president to those who have good records, as well as bulletin-board citations and pats on the back from supervisors.

All these devices, say management men, are helpful, but they must be supplemented by sterner measures for employees who won't succumb to the lure of recognition or to "extras" in the pay or benefit envelope. It is here, on the discipline front, that management runs into real obstacles.

A study by Fred J. Holly showed that between 1942 and 1956 management lost half the cases that went to arbitration on the issue of discharge for absenteeism. Since then, the record has improved in management's favor. Why? It seems that a pattern of policy is evolving. And the employer who shapes his decisions in line with evolving criteria is finding that he can make his action against absentees stick.

What are the emerging standards for absentee control?

Rule One: An employer does not have to retain a worker whose absenteeism is excessive, even though the reasons for his not coming to work are for "good cause."

This principle is by now fairly well established. Said arbitrator Irvin D. Shapiro in sustaining the discharge of a worker who had a poor attendance record because of frequent illness:

"The profitable operation of a plant depends on the regular attendance of employees. A plant cannot operate without assurance that its employees will come to work. It should be under no obligation to retain an employee who is so habitually ill as to make his services of little value to the company."

This view is echoed by Whittley McCoy, former director of the Federal Mediation and Conciliation Service:

"No matter how good the excuses for absences may be, the company is entitled to the attendance of the workers. Where an employee is absent so much, even with the best of reasons, that his services are of no value to the company, he cannot expect to remain in the employ of the company."

Rule Two: Rigid formulas for disciplining absentees usually do not work.

Through the years, management has tried various techniques for discouraging absenteeism. Among the most popular methods has been some sort of point system. At one company, for example, when an employee was absent once in a one-month period, it meant that one point was chalked up against his record. If he was out again within the thirty-day period, he rated another point and a warning. Three points drew a week's layoff, and four meant discharge.

This pattern, however, failed to stand up in arbitration. The arbitrator held that "rules unilaterally established by the company providing for suspension and discharge, regardless of circumstance, are invalid. An employee must be given a chance to show reasonable cause."

Similarly frustrated was the plan of another company to cure absenteeism by making an object lesson of chronic violators. Here the industrial relations director, at the end of the year, went over the records of employees and fired the two workers who had the largest number of absences.

This "mechanical" approach was ruled out by an arbitrator who held that discipline for absenteeism cannot be invoked without regard to the circumstances.

Rule Three: An employer can discipline a worker even if his absence does not inconvenience the company.

A familiar attitude among employ-

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ees is that an absence is all right if it does not interfere with the flow of work or inconvenience the company. At the John R. Evans Company, when an employee was laid off for absence from his job without good reason, the union took the issue right up through the grievance machinery. The arbitrator gave short shrift to the union's argument that the absence had no adverse affect on the company's fortunes. It's not for employees to decide, he said, whether or not they are needed in a plant. Workers who are scheduled to report must make every reasonable effort to be on the job, even if they are not actually needed, so long as the company is willing to pay.

Rule Four: If you intend to crack down on absenteeism, give employees advance notice.

Many companies, after going along for years with lax practices on absenteeism, suddenly run out of patience and start laying off or discharging offending workers. Some unions have gone so far as to declare that if management has not exercised its disciplinary prerogatives for some time, it loses its right to enforce absenteeism by drastic measures.

One company kept warning a worker who was excessively absent that next time he was out he would be let go. Yet it repeatedly failed to make good the threat. When it finally did fire him, the worker and his union protested. The arbitrator, though he sided with management, declared the company's dilatory approach to absenteeism had become a "company joke." Once the company had made a decision to "do something" about absenteeism, he said, it should have made its intention perfectly clear, and then gone ahead with enforcement.

Rule Five: Absence is not a right or a privilege. A worker can be required to give an acceptable reason for his absence or face the music.

Many workers are under the impression that they have a right to stay away from work if they have a "personal" reason for doing so or if they go through the motions of giving advance notice.

Most company policies require workers to call in if they intend to be absent. The situation becomes sticky if the employee adopts a "shop lawyer" attitude and refuses to give a reason for his impending absence. Thus, when an employee called his supervisor and said he was not showing up the next day "for personal reasons," he was given a three-day suspension. When the case came to arbitration, the referee didn't agree that the worker's calling in advance was his only obligation. Said the arbitrator:

"When an employee absents himself from work, he assumes the burden of proving that he has a reasonable or just cause for so doing."

What is a reasonable excuse for absenteeism? Certainly illness or family problems are considered "proper cause." Other acceptable reasons depend on company policy or past practice.

In one company, the opening day of the hunting season was usually considered to be an acceptable excuse to stay away from work. And when the management finally decided to change its policy, the employees became so disturbed that they insisted on an arbitrator's interpretation of their long-established "right." The referee ruled the company has a right to change its absenteeism standards, provided it gives adequate notice to workers. In this particular instance, the company's two-day advance notice that hunting would not be an acceptable reason for being off the job was not considered to be "adequate notice of change."

Rule Six: Before invoking drastic discipline for absences, management is obligated to try to counsel and cure the employee.

Said one arbitrator:

"If the company insists on asserting its right to manage the working force, it must also assume the responsibility—as part of the management function—to find out the causes behind employee deviations from rules before it imposes punitive discipline. Punitive discipline should not be imposed until a reasonable investigation has been made of the causes, and some attempt made to help him solve the problems that are causing the absences."

Keep 'Em Working

Want to reduce your employee pension costs? Consolidated Edison Company (New York) netted a five-per-cent reduction in pension outlays when it changed its retirement policy. Now, instead of compulsory retirement at 65, male employees can continue working, at their option, until 68. Female employees can retire at 60

—but can choose to stay on the job until 65.

The old saw that oldsters want to continue working after 65 is not entirely borne out by Con Ed's experience. Only 35 per cent of the men who reached 65 exercised their option to stay at work. Women, on the other hand, are glad to have a job to come to. Sixty per cent decided not to retire at 60.

Talking It Up

When a strike is over, most managements adopt a "let bygones be bygones" policy and don't rake the union over the coals. Not so Great Lakes Steel Corp., which got its managerial dander up when the union pulled a wildcat strike that caused a week-long stoppage. The company wrote a letter to workers, and hinted that they should take some action to get a new slate of officers.

Said the letter:

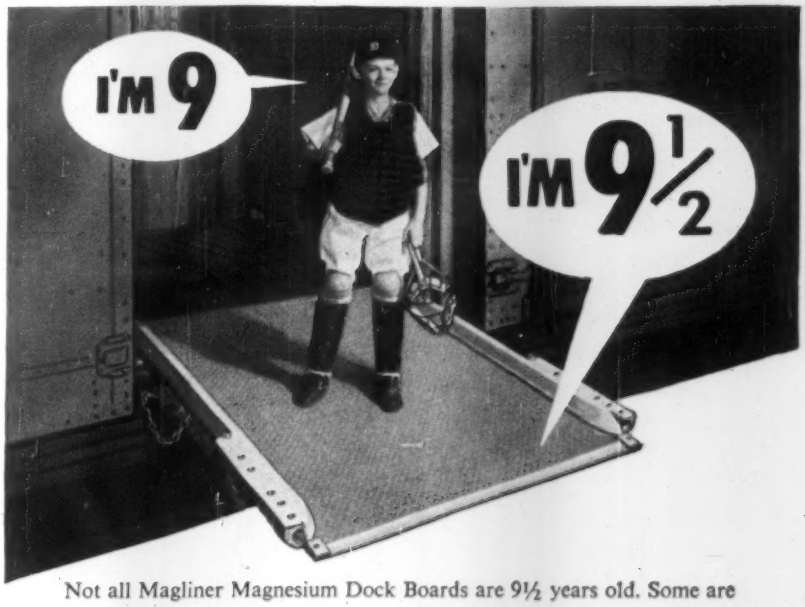
"The union is your union. Should it be a tool to be used by a handful of irresponsible men for their own purposes? Is it not to your interest as a union member to see that union offices are occupied by men you consider responsible, and is it not also to your own interest to see that they conduct themselves responsibly so long as they hold office? The decision is yours."

Demand Dilemma

By far the most important labor negotiations coming up next year will be between the auto industry and Walter Reuther's Auto Workers. Union planning has hit an internal snag. One group wants to press for a profit-sharing scheme—an objective introduced in 1958 but dropped because of the recession.

An opposing contingent within the union calls profit sharing pie-in-the-sky and wants to concentrate instead on a seven-hour day.

The latter group finds support among labor union leaders who feel that automation has so seriously reduced employment in the automobile industry that a shorter work-week will help to create more jobs. Proponents also argue that the demand for a shorter workweek will be easier to negotiate, since the auto industry has been adamant in its refusal to discuss profits or profit sharing as a bargaining-table issue. END



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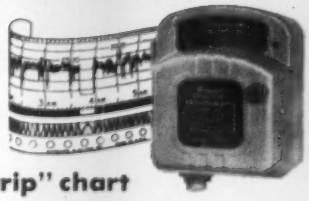

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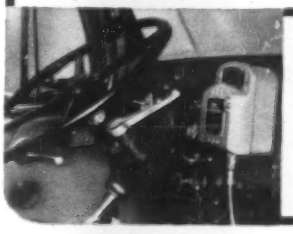

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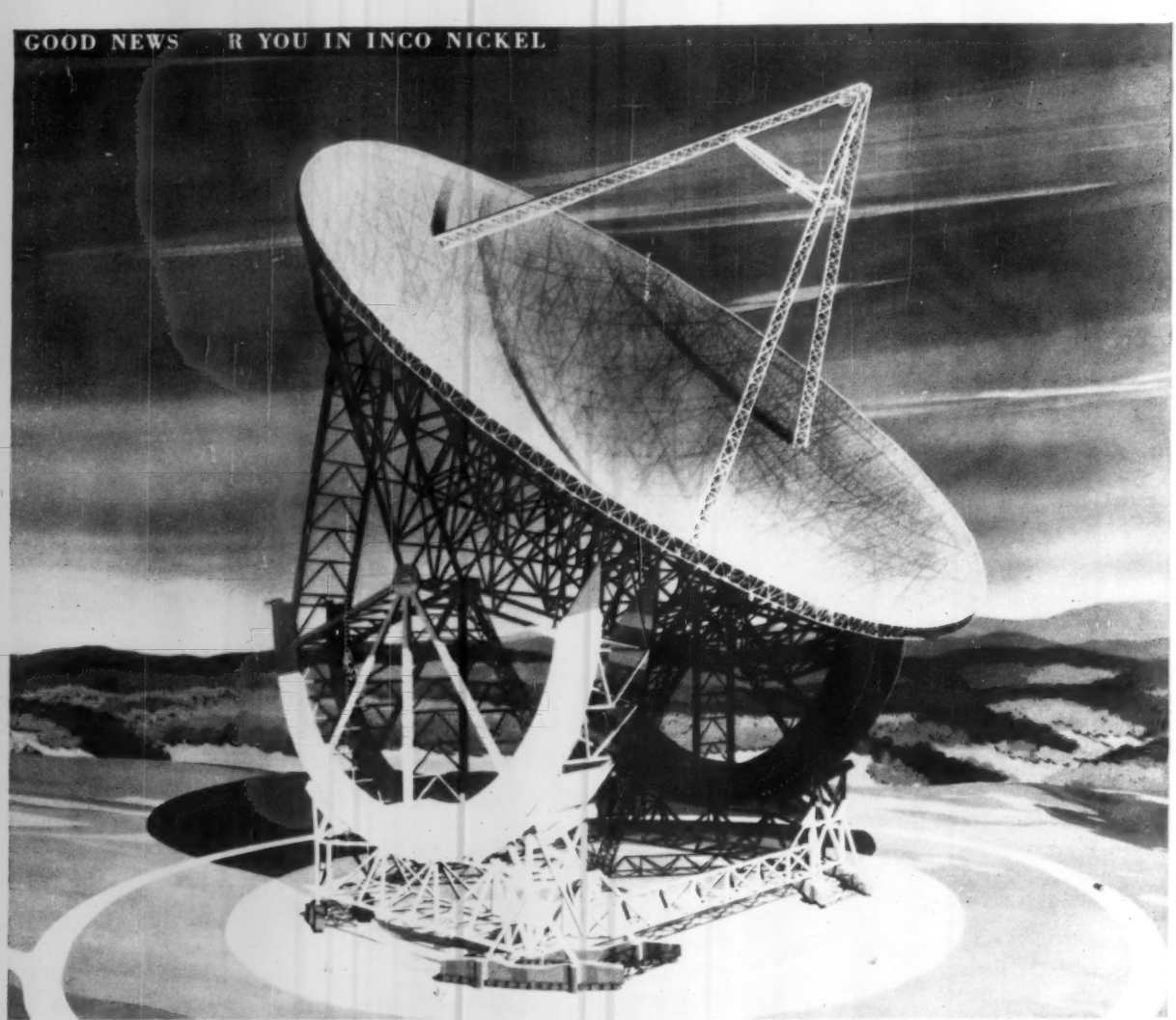

People in foreground give idea of tremendous size of radio telescope which will "see" 38 billion light years into space. *Illustration courtesy of Grad, Urbahn & Seelye.*

Nickel steels to help new radio telescope probe boundaries of the universe

One of the world's biggest questions is, "How large is the Universe?" The world's biggest precision instrument will probe deeper into this question than has ever been possible.

The new instrument—a gigantic radio telescope—is now under construction for the U.S. Navy. It will tower to the height of a 66-story building, will have a reflector big enough to hold nearly six football fields, will swing up, down, and sideways to aim at any spot in the Universe above the horizon with pin-point precision.

Because the tiniest amount of wear or distortion in the rotation mechanism would throw the telescope millions of miles off target in the far reaches of space, the rollers and tracks in the horizontal and vertical drives will be of Nickel alloy steel. Nickel alloy steel in these parts insures precision even under the 20,000 ton load.

Nickel will also be used in the special, high-strength, low alloy steel members that support the reflector.

This radio telescope is only one of the countless contemporary engineering achievements in which Nickel plays a part. There are three main reasons why designers are turning to Nickel and Nickel alloys: 1. Dependability of Nickel supply from neighboring, friendly Canada. 2. Inco Research which is constantly developing new ways to make Nickel perform more effectively. 3. Inco Market Development which promotes broader use of Nickel and Nickel-containing products. The result is more "good news for you in Inco Nickel."

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Inside Industry

"MAGNETOHYDRODYNAMICS," a hitherto obscure term that everyone is only too happy to contract to "MHD," will soon be as familiar in industry as the word "transistor." With MHD we may some day make electricity in the same way as the stars have been twinkling by for eons. In contrast to some of the other, peanut-size power devices (solar cells, thermoelectricity, and so on) that scientists are tinkering with, MHD works best on a grand scale.

Blue-chip companies in the electrical industry are covering all bets by working feverishly to perfect the MHD generator within the decade. Nobody knows who will be first, but all of the pioneers hope to build giant MHD generators that are much more efficient than the newest and largest steam generators.

Magnetohydrodynamics deals with the interaction of electrically conductive fluids (gas or liquid) with magnetic fields. Geophysicists and astrophysicists have long studied MHD to try to uncover the secrets of the universe. But now practical people are putting this special science to work for power generation, controlled thermonuclear reactions, propulsion of vehicles in outer space, hypersonic aerodynamics, and even metal cutting.

The Allis-Chalmers Manufacturing Company, working with MHD Research, Inc., is planning to build an advanced hypersonic wind tunnel utilizing MHD principles and has already constructed a working model (see photo). The wind tunnel should be able to produce high winds and high temperatures continuously and at the same time, a feat that present wind tunnels can only duplicate for extremely short periods.

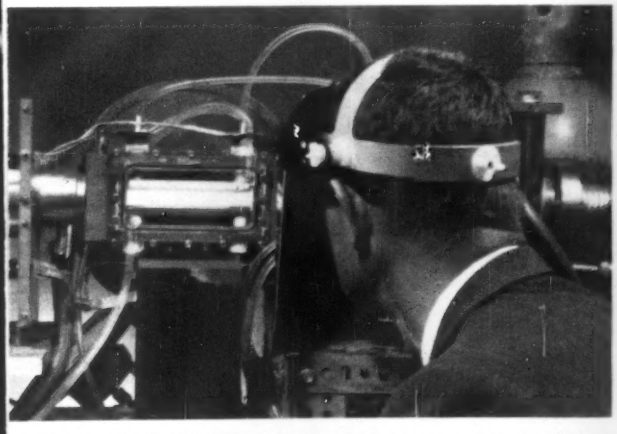
Like General Electric, Westinghouse (see photo), and Avco, which is backed by eleven utilities, Allis-Chalmers is also developing MHD as an efficient new way of manufacturing electricity. In addition, independent research institutes like Battelle Memorial Institute in Columbus, Ohio, are also climbing on the bandwagon.

The idea behind MHD as a source of electricity actually goes back 130 years to Michael Faraday, who discovered the basis for our present electric power industry. Having demonstrated that electricity can be generated in a metal conductor moving through a magnetic field, Faraday substituted a tube carrying a liquid metal, mercury, for the copper. In an MHD generator, a conductive gas is substituted for the metal conductor.

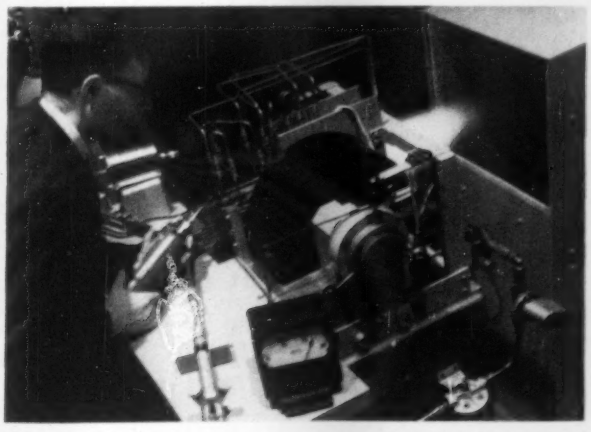
The major problem with an MHD generator is that it only works with

» *There's crackling competition in the electrical industry to harness MHD for power.*

» *"Tired" engineers inspire a basic research project that yields profits.*

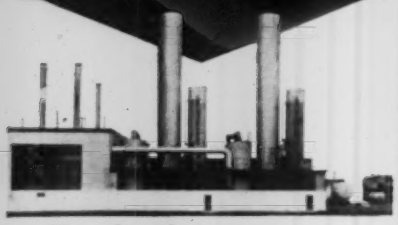


FUTURE WIND TUNNEL: *This is a working model of a hypersonic (up to 30,000 feet per second) wind tunnel based on MHD. Allis-Chalmers plans to build a full-scale version.*



FAINT BEGINNINGS: *This experimental MHD electric generator has already produced one kilowatt of power and may eventually reach 10-kilowatt capacity (see story above).*

General Dynamics chooses West-Central Ohio for its Compressed Gas Plant



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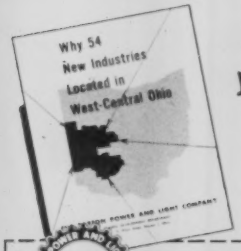

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NO PIPE DREAM: *These three men are all who are needed to install a 4½-inch diameter plastic pipeline. It took them only three days to lay four miles of the Kralastic pipe, contrasted with nine working days for the equivalent metal pipe. The 40-foot pipe lengths, which will carry natural gas, are joined in minutes by simple "solvent welding."*

extremely hot gases, hot enough to melt any known container quickly. Westinghouse scientists have indicated a way out of this dilemma through "seeding" the gaseous flow with potassium or cesium. Through seeding, the gas can be made sufficiently conductive at such comparatively cool temperatures as 4,000–5,000° F. There are, however, only a few materials that can hold together even in that temperature range. So far Westinghouse has been able to run its MHD generator continuously for four minutes, quite an achievement in this new art.

Because of the extremely high operating temperatures, MHD generators would naturally have a high thermal efficiency—perhaps as high as 60 per cent, compared with about 40 per cent for the biggest, newest, hottest steam plants. Some companies are talking in terms of MHD generators of 300,000 kw capacity, comparable in size to the largest conventional systems.

MHD generators produce direct current, which is fine for electroplating and a good many other industrial applications but would require expensive converters to turn it into AC for other uses. However, some researchers are talking of ways to produce AC directly from MHD generators.

Beyond present hardware objectives in MHD stand two visions. Some experts hope to supply the necessary hot gases from specially designed atomic reactors instead of by burning fossil fuels, a very intriguing possibility. An even further vision is the role MHD could play in controlled thermonuclear reactions, the ultimate in power production.

Basic Research Pays Off

About five years ago, after losing out on a technical proposal for a new airplane, the management of the Martin Company began to get worried about the declining individual productivity of its thousands of engineers. A lot of thought and study pointed to the nation's dwindling flow of basic physical information as the culprit. Aeronautical engineering—along with many other branches of technology—was degenerating into the art of refining old technology instead of converting basic new knowledge into pioneering know-how.

Instead of just making speeches and wringing their hands, Martin's perceptive executives decided to do

something about a national deficiency which so many people had been unaware of until the shock of the first Sputnik. They decided to go into the business of replenishing the country's fund of basic knowledge—at a profit.

RIAS, the Research Institute for Advanced Studies, is the result. Established by Martin in a mansion on the outskirts of Baltimore, RIAS quickly developed an international reputation. Entirely supported by Martin funds at first, the Institute should soon be supported mainly by non-company research contracts, practically all of which are let by various branches of the Federal Government.

Since the annual budget for RIAS is only $1 million—and it will never be much larger—it is obvious that any profit from executing basic research contracts will not loom large on Martin's annual report.

Nevertheless, company officials are well satisfied with what many hard-headed business men would call an impractical whim. There are certain intangible benefits gained when Martin engineers, stumped by some problem, can be stimulated by talking with brilliant researchers working on the frontiers of science. Incidentally, the privilege of talking to these men is not limited to Martin employees: It is open, gratis, to anyone in American industry.

New Rust Theory

Industry may soon have new weapons with which to fight rust, a form of corrosion that takes its toll in billions each year. Scientists at the Westinghouse Research Laboratories have come up with a new explanation for rusting that labels hydrogen ions as the true villains. At present, electrochemical reactions confined to tiny local areas in the surface of iron are generally considered the mechanism of rusting.

A powerful electron microscope capable of magnifying 300,000 times was the key tool used by T. P. Copan and Dr. Earl A. Gulbransen to illuminate their theory. They can already suggest two ways to inhibit rusting: better control of hydrogen ions, which are present in water vapor, and the inclusion of new untried alloying elements in iron and steel to prevent the formation at the point of corrosion of the unstable, crumbly oxides which promote further rust ravages.—M.M.

Industrial Buildings can be 100% Functional and Reasonably Priced

Interior view showing storage section of Dunbar and Sullivan. Cuckler Buildings provide for use of all available space.

The Cuckler Building belonging to Dunbar and Sullivan Dredging Company has siding and roofing of corrugated steel.

Dunbar & Sullivan Dredging Company does dredging and underwater drilling from the Mississippi to the Atlantic, Canada to the Gulf. In order to keep diesel equipment in constant operation they constructed a Cuckler Building at Stony Island, Gross Isle, Trenton, Michigan. This 44′ x 144′ Cuckler building is divided into two areas: one for storage of diesel engines and patterns, the other for engine overhaul and maintenance. The cost of construction was approximately $1.89 per square foot.

CUCKLER BUILDINGS are built with the strength of a bridge, from the finest grade steel. 100% usable space, wall to wall and roof to floor . . . (no posts or other obstructions). Widths available: 24′, 32′, 44′, 50′, 60′, 80′ and multiples; any length. You select siding, roofing and other materials from the stock of your Cuckler dealer, for a building tailored to your individual needs. If you're planning to build now or in the future, send for one of the Cuckler booklets that will give you ideas to fit your specific business and your budget.

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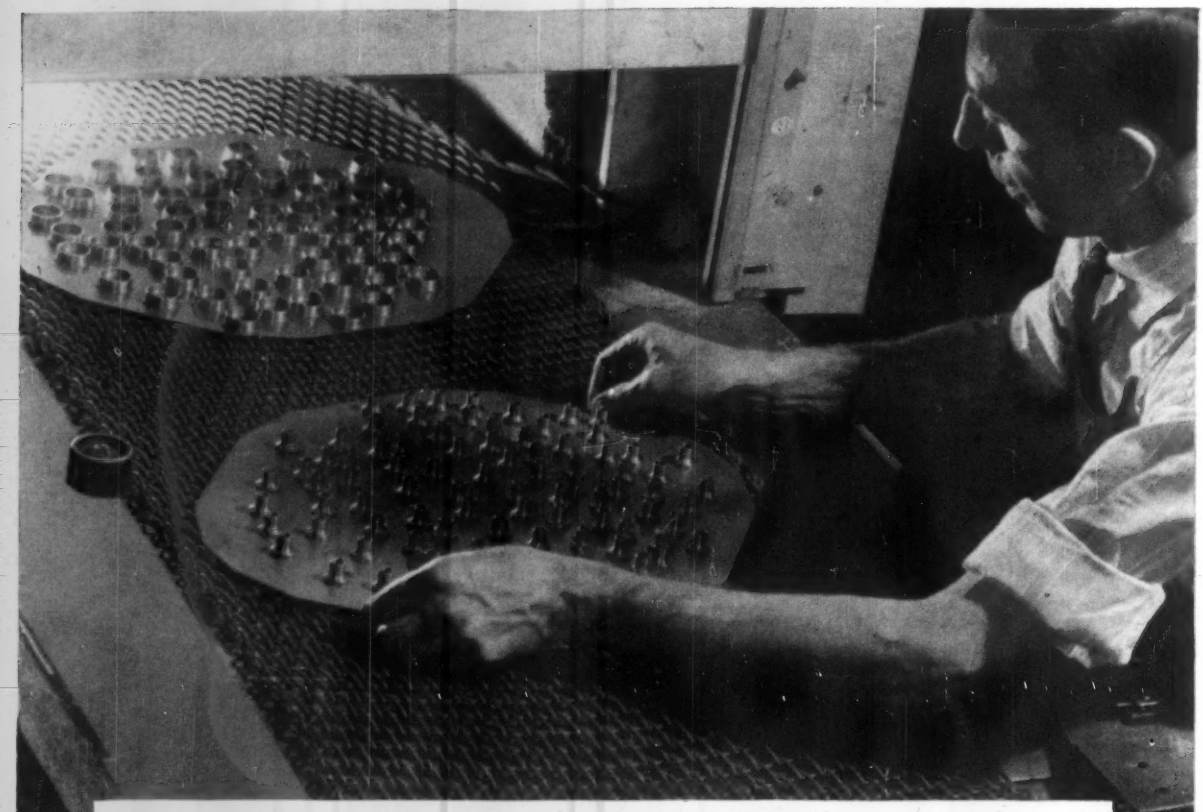

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Living With the Law

PAUL A. KING

Arbitrators Get New Lift

THE union said: "We have the right to strike whenever we don't like management's interpretation of a contract clause." Management said: "Give up that right and arbitrate instead." "Agreed!", the union replied.

But, as the Supreme Court said in three recent rulings, although management may have agreed in principle to turn contract interpretation disputes over to arbitrators in exchange for a no-strike clause, in practice it sometimes worked out differently. Management often resisted arbitration on the grounds that the arbitrator had no jurisdiction, that the question came under the management rights clause. Sometimes the residual rights theory was cited. This holds that what is not specifically given to the union in the contract belongs within management's exclusive jurisdiction.

Often management would submit to the hearing but flatly tell the arbitrator at the outset that he had no jurisdiction. It would later contest his award in court on the same grounds, and since the courts were more receptive to that argument, some management strategists sought a court order enjoining the arbitration hearings to begin with.

Forcing their hand

A second method was just to announce that management wasn't going to be at the hearing, thus leaving it up to the union to bring court action to compel arbitration under the Labor Management Relations Act.

Federal lower courts which heard three cases of this type ruled for management and said the questions were not arbitrable, that the arbitrators had no jurisdiction. But in so concluding they went into the merits of the case, disregarded the content of the arbitration clause, and thus rubbed the Supreme Court the wrong way.

In one case, the company refused to arbitrate the question of its right to subcontract work out of its shop. A Federal District Court agreed with the company.

In case two, the company refused to arbitrate an employee's claim for reinstatement after he had obtained a workmen's compensation award for a permanent partial disability. There's no jurisdiction here, ruled the lower court, because it was patently a frivolous claim—and a waste of time for an arbitrator.

In the third case, the company contested reinstatement of an employee and back pay which extended beyond the contract's term. Again the lower court said it was not a matter for an arbitrator.

A simpler issue

The Supreme Court, however, ruled in all three cases that the lower court had no right to go into the merits of the dispute. It said that "the function of the court is very limited when the parties have agreed to submit all questions of contract interpretation to the arbitrator. [The court] is then confined to ascertaining whether the party seeking arbitration is making a claim which *on its face* is governed by the contract. Whether the moving party is right or wrong is a question of contract interpretation for the arbitrator. In these circumstances, the moving party should not be deprived of the arbitrator's judgment when it was his judgment and all it connotes that was bargained for."

Walking the line

Arbitrator Jules Justin said some time ago: "Only a tenuous line separates the area between arbitrability and the arbitrator's authority to decide the case on its merits."

In one of its rulings, the Supreme Court stated: "The case might, of course, be otherwise were the arbitration clause very narrow or the exclusion clause quite specific, for the inference might then be permissible that the parties have manifested a greater interest in confining the arbitrator; the presumption of arbitrability would not have the same force and the court would be somewhat freer to examine

- *Don't agree to leave contract interpretation to an arbitrator—unless you really mean it.*
- *Famous men may praise your product—and it's best to be content with just the praise.*
- *New definition of a coffee break: work time—that's what one state decrees.*

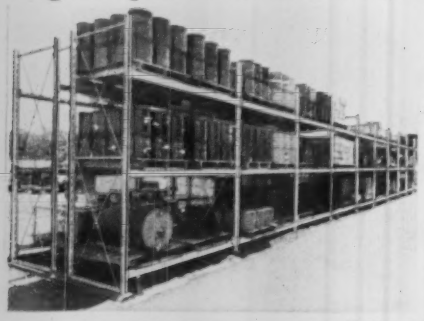
from the ground up...to as high as you need to go

American

Slide-n-Lock adjustable

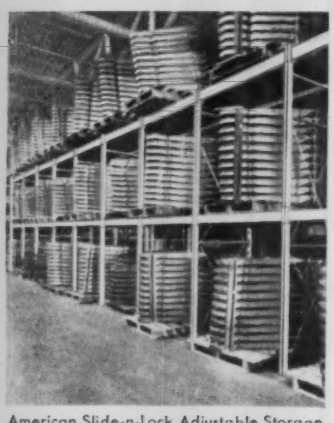
STORAGE RACKS

give you the most for your storage dollar!



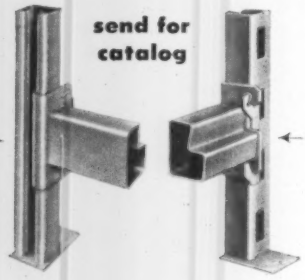
no storage rack but American offers all these features!

1. **American Stringers are one-piece**—made of durable, continuous welded steel tubing, made from high carbon steel.
2. **American Stringers have step construction** for fast, simple conversion to decking—step is 1⅝" deep—thickness of finished 2" lumber.
3. **American Posts are rugged**—made from extra heavy gage steel—roll formed by special tooling.
4. **American has positive double-wedging lock**—safe-t-pin gives positive security against unhooking stringers.
5. **American has smooth, aisle-side construction**—no protrusions of any kind to tear clothes or create a safety hazard.
6. **American has higher safety factors**—2.25 to 1—for greater protection to truck operators and merchandise.
7. **American Racks are easy to erect**—no costly bolting—all parts hook into place.
8. **American Racks are easy to adjust**—all stringers can be moved independently of any other part.
9. **American Upright Frames are cross braced** against sway—turnbuckles provide ready take-up for uneven floors.



American Slide-n-Lock Adjustable Storage Rack installations at Brunswick Corporation Muskegon, Michigan, plant.

send for catalog



10. Fig. A—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Stringers raise and lower like a window. Fig. B—note rigid connection when stringer is "locked" to post.

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION

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Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo Ontario

into the merits of the case before it."

In coming negotiations, managements will closely scrutinize the arbitration clause in their contracts, hoping to define the tenuous line that will keep labor disputes away from the arbitrator when they feel the issue is one for management alone to decide. And failing to succeed on the negotiation front, when a grievance is to be heard, they will "shop" for that brand of arbitrator who tends to take a narrower view of his function.

Limit on Name-Dropping

Big names make news—and help boost sales when used to promote a product. But you can't play fast and loose in the name game and count on escaping the Federal Trade Commission's surveillance for long.

For example, when you say Mr. Big designed your product, make sure that he did. One hosiery manufacturer thought he was free and clear when two famous fashion designers had okayed the use of their names in sales promotions. He would have been if he had been satisfied with a modest statement that they approved his product. But he stretched things too far when he claimed that they had styled, created, designed, and fashioned his hosiery when, as a matter of fact, they had not.

More—But Not Less

You can agree with your employee to withhold more Federal income tax than is called for in the exemption form, but no matter how much of a good scout you'd like to be, don't agree to withhold less. The Internal Revenue Service disapproves (see IRS REV. Rule 60-220), even if you're certain that his income tax liability will be less than the amount of tax withheld.

The Coffee Break Is Work

One advantage of the coffee cart is that it cuts down the time that employees would otherwise take when they run out for coffee. And running out for coffee, one employer found out, may cost more than just time.

In Minneapolis, an employee who slipped out for the uplifting cup also slipped on the ice, permanently injuring her ankle. It was a coffee break and not working time, her boss argued when she claimed—and he resisted—

At Michigan City, Indiana . . .

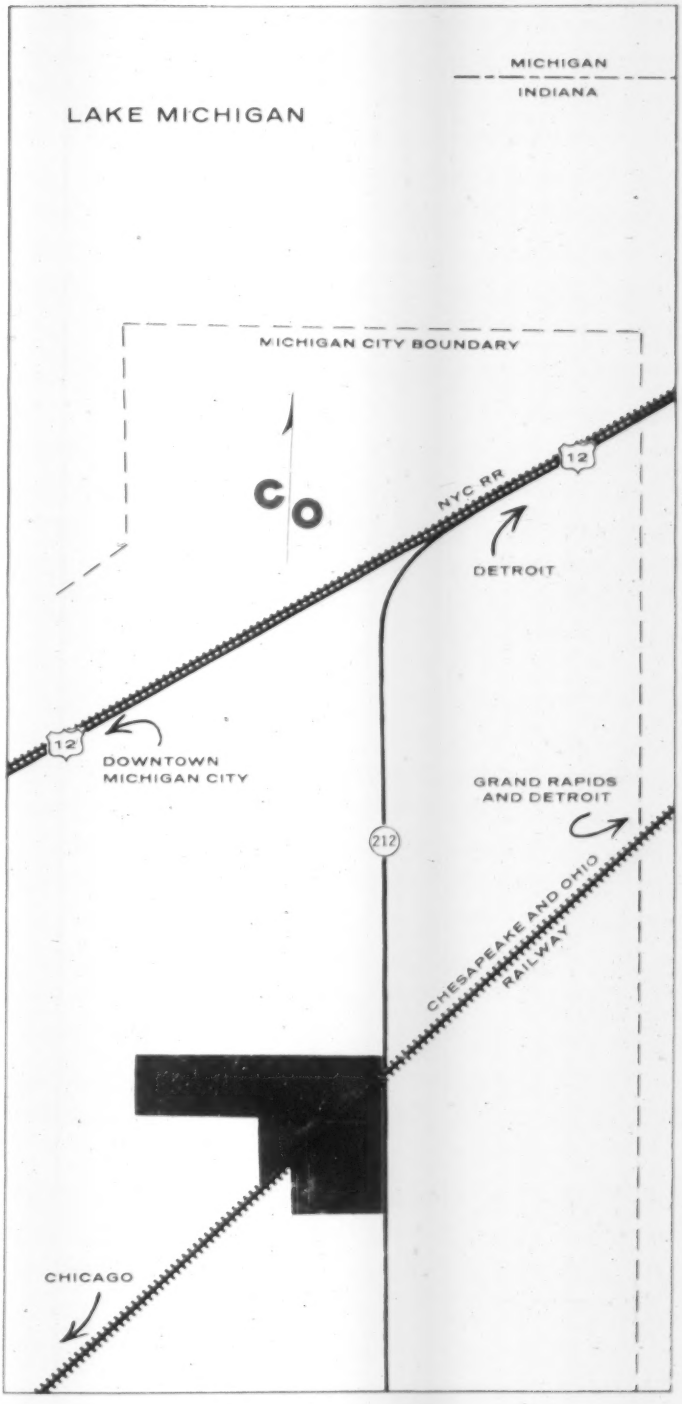
C&O PROVIDES AN EXTRA DIMENSION IN SITE SELECTION

C&O experts offer you confidential counsel on plant locations along The Chessie Route

In searching for a new plant site, you need to evaluate its worth from every point of view . . . to avoid the danger of dealing in generalities.

When you call on the C&O Industrial Development Department you get an *extra dimension* in service which only a full-time staff of informed specialists can provide. Their intimate knowledge will take you beyond the surface facts of transportation, fuel, power, water, topography, resources and labor. They also supply underlying data on community facilities, local government, the profile of the people, the zoning regulations, tax factors and other vital conditions.

Given all the facts, simply, without gloss, the decision then rests with you. There are many attractive locations along C&O's 5,100-mile system serving the heart of industrial America. A few are listed on the other side of this page.



✻ OPPORTUNITY AT MICHIGAN CITY, IND.

Fifty-eight miles from the Chicago Loop: Two nearly level parcels of 43 acres and 22 acres on C&O's Chicago-Detroit-Buffalo main line. Industry zoned. Reciprocal switching with four other railroads. Both sites front on State Route 212, a 4-lane road linking U. S. Highways 12 and 20.

Electricity on site. Now in city: gas, water, sewer facilities available when needed. Power and gas from Northern Indiana Public Service Co. High-grade coal via C&O.

Climate tempered by Lake Michigan. An area of economic stability, with an exceptional labor pool.

Chesapeake and Ohio Railway

Industrial Development Department

Huntington 1, West Virginia

Outstandability in Transportation

Partial list of available sites for industry

Contact the C&O Industrial Development Department for full information on these and many more choice locations

1—Newport News—Hampton, Va.—In Copeland Industrial Park you will find any size site you want, offering economy and speed in construction because no grading is needed; all utilities installed. Power and gas by Virginia Electric and Power Co. On C&O Railway, and linked to Hampton Roads, one of America's busiest harbors. Excellent labor market.

2—Erie, Michigan—Pick your own site in 913-acre property, all level and well drained, adjoining C&O's Ottawa Yard. Ten miles from downtown Toledo, forty-seven miles from Detroit. Lies between U. S. Highways, 25 and 24. Electricity from Consumers Power Co.; in sight of new generating plant. Water from Lake Erie. Gas not now available. Access to exceptional labor sources.

3—"Chemical Valley," West Virginia—The 43-acre Lewis site, clear and level, thirteen miles from Charleston, the capital. On C&O main line and canalized Kanawha River; close to U. S. Highway 60. High-grade fuel from Middle Appalachian fields. All the water you can use. Utilities: Appalachian Power Company (AEP system); United Fuel Gas Co. (Columbia system); West Virginia Water Co. Ample labor. Other sites near by.

4—Griffith, Indiana—A residential community, but served by five railroads. Three contiguous properties, 153 acres, on C&O main line. Suited to complete production and marketing operations; thirty-three miles from Chicago loop. U. S. Highways 6, 30, 41 near by; six airports within fifteen miles. Water from Lake Michigan, or wells. Electricity and gas: Northern Indiana Public Service Co.

5—Richmond, Virginia—Choice level sites in the 200-acre Airport Industrial District, five miles from downtown Richmond. Adjacent to Byrd Field, city's airport. All utilities. Lead track to C&O's fast main line, Newport News to Chicago. District is already distribution center for Ford, GM, Allis-Chalmers. Electricity: Virginia Electric and Power Co.

6—Marion, Indiana—C&O invites location in level 369-acre property, zoned for heavy industry, with all utilities available. On main line, Chicago to Cincinnati; reciprocal switching with three other railroads. Close to State Route 18. Dana Corp. and General Motors plants near by. Utilities: Indiana & Michigan Electric Company (AEP system); Central Indiana Gas Co. (Consolidated affiliate).

7—Logan, Ohio—A forward looking city of 6,000 in the Hocking Valley, forty-nine miles southeast of Columbus. On C&O line and U. S. Highway 33. Affords several choice sites. Abundant fuel sources; water from Hocking River aquifers. Utilities: Ohio Power Co. (AEP system); The Ohio Fuel Gas Company (Columbia system). Large reservoir of skilled, semiskilled and unskilled labor.

8—Muskegon, Michigan—Two contiguous fine level properties, 30 and 70 acres, with highway advertising value. Between C&O and limited-access 4-lane U. S. Highway 31, eight miles south of this population center of 80,000. Interchange with U. S. Highway 31 near by. Electricity: Consumers Power Co. Water, sewage utilities must be provided. Zoned for heavy industry. Diversified labor force.

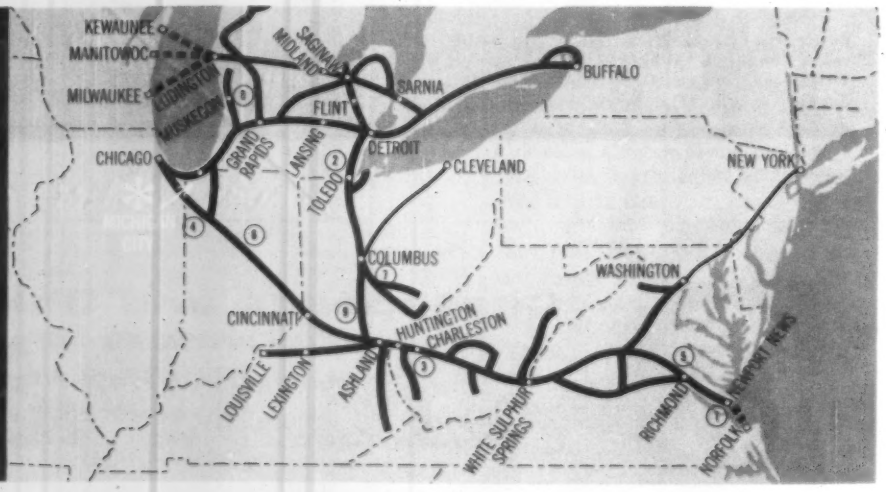
9—Southern Ohio—C&O offers site in 215-acre upland tract at Greggs in the valley of the ancient Teays River. Water from Scioto River aquifers. Utilities: Columbus and Southern Ohio Electric Co.; Pike Natural Gas Co. Piketon village will extend services. Twenty-eight miles north of industrial Portsmouth; near Atomic Energy plant. In area of labor surplus.

Complete industrial surveys of these and other sites along The Chessie Route are available to interested companies. Inquiries are handled in complete confidence and without obligation. Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, West Virginia. Telephone: JAckson 3-8573.

There's Opportunity for Industry all along The Chessie Route

C AND O

Outstandability in Transportation



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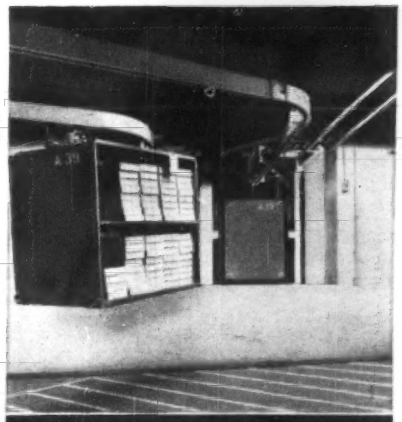
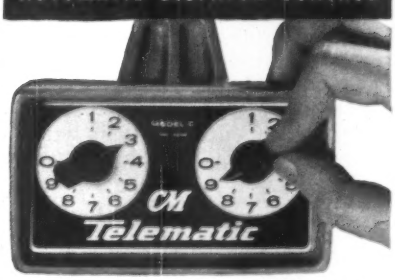
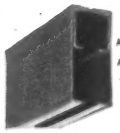


WITH TELEMATIC
AUTOMATIC DISPATCH CONTROL



• *Simply set dials and Telematic guides carrier to any station in system*



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CM CONVEYORS

COLUMBUS McKINNON
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workmen's compensation damages. The Minnesota Industrial Commission saw it otherwise, and ruled in her favor because the coffee break was part of her work activity.

Business on Sunday

Many communities are against business on Sunday, but according to one court, they can't confine their opposition to just *big* business.

As a rule, in criminal law you cannot complain that you are being picked on, that the law is not being enforced against the other fellow. But there is an exception if a public official does not enforce the law uniformly as a calculated and definite policy.

For example, the Philadelphia Police Commissioner limited Sunday blue-law enforcement to large retail establishments. One large store which complained used this legal exception to support its case, and won. The court said the company had been denied the equal protection of law guaranteed by the 14th Amendment.

The Census and the BLS

Before the census-takers appeared, it was made crystal clear that refusal to answer an inquiry was against the law. But is it against the law to ignore questionnaires sent out by the Bureau of Labor Statistics? Although there's no doubt that BLS surveys are helpful, it is equally true that answering them is a voluntary matter.

The All-Important Tax

There's hardly an executive today who isn't cost-conscious—and tax-law-conscious, too. Frank Gibney, in his book *The Operators*, states that taxes "are now the motivating factors in thousands of business maneuvers." But the question is: Is your staff as skilled at tax maneuvering as they are at cost cutting?

The Executive's Tax Report, Prentice-Hall's newsletter, has noted that "for most corporations, a tax saving is worth at least twice as much as a cost saving, and ten times as much as a sales increase." It then illustrates its point with a table showing that if your profit margin on sales before taxes is 10 per cent, a cost saving of $1,000 will net you as much as sales of $10,000. But a tax saving of $1,000 will net you as much as sales of $20,833.

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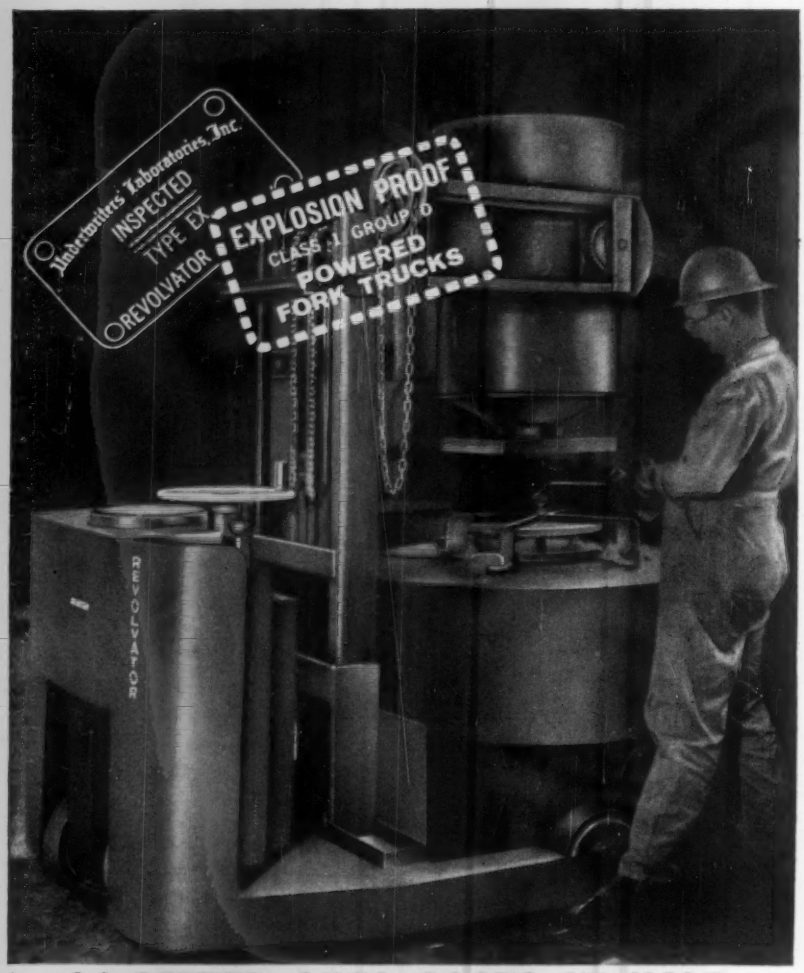

GO-GETTER CUTS COSTS IN HALF; MAKES JOB SAFER

A leading chemical plant faced with the double explosion hazard of ethylbenzene fumes and aluminum chloride dust, solved its material handling problems – and saved money in the process – through the use of Revolvator's new fork lift trucks labeled Type Ex by Underwriters' Laboratories for Class 1 Group D explosion hazardous areas.

Previously, two men with a hand truck were required for this operation. Since the introduction of the Explosion Proof Go-Getter, one operator easily charges the hoppers in a safe manner with a minimum effort. "What used to be a dangerous, disagreeable job has now become a simple task," says the plant manager.

The explosion proof Go-Getter, available in 12 standard models, is but the latest development in Revolvator's better than a half century of experience in materials handling equipment covering standard walkie lift trucks, hand lift trucks, portable elevators and related equipment.

REVOLVATOR CO.
8702 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

Does your tax staff consist of old-fashioned tax-form-filler-outers? Or do you have personnel competent to advise you on the tax aspects of a situation *before* you get into it?

FTC's Day Is Never Done

Until now, direct-mail advertising escaped the really sharp scrutiny of Federal Trade Commission investigators. It was hard for the FTC staff to police every bit of direct-mail advertising that found its way to a consumer. And the commission does not require advertisers to send in copies of their mailings for scrutiny, since this would be a Herculean task. But to plug this gap in enforcement, the FTC is now asking its employees to check the mail they receive at home for FTC violations and report misleading and false advertisements to the office.

Watch Your Forms!

Most situations involving possible liability that pop up during a business day can be covered by the general release form you buy in a corner stationery store. But if a large sum or claim for damages hangs on the document, be sure that the release is tailored to fit the situation. If you have a lawyer handy, have him look it over.

In the words of a Federal Court: "A release, although general in terms, will not be given the effect of discharging a claim not within the contemplation of the parties at the time of its execution, unless the language of the release clearly embraces such a claim."

In the case that gave rise to these words, a truck driver gave a general release to a car owner whose vehicle collided with his truck. That document, said the court, would not stop him from forcing the car owner to contribute to the damages the truck driver had to pay the car's passengers. The release, as drafted, didn't cover this situation—and the fact that it was general and broad didn't matter to the court.

Says the Navy

The rules of doing business with the Navy are available for $8 in *Navy Contract Law*. In stock at the U. S. Government Printing Office, Washington, D.C., the book clarifies the subject for contractors and their lawyers.

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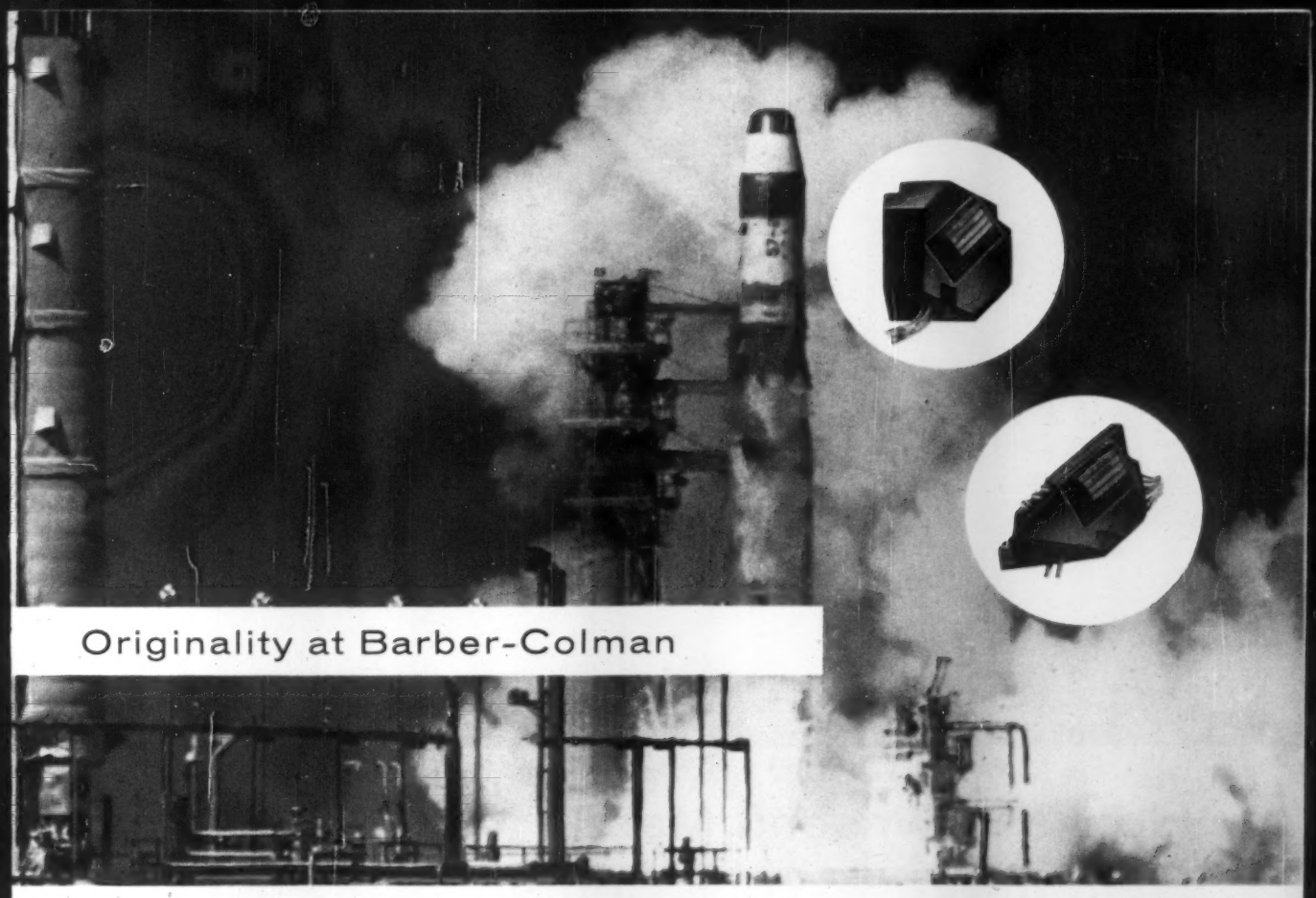
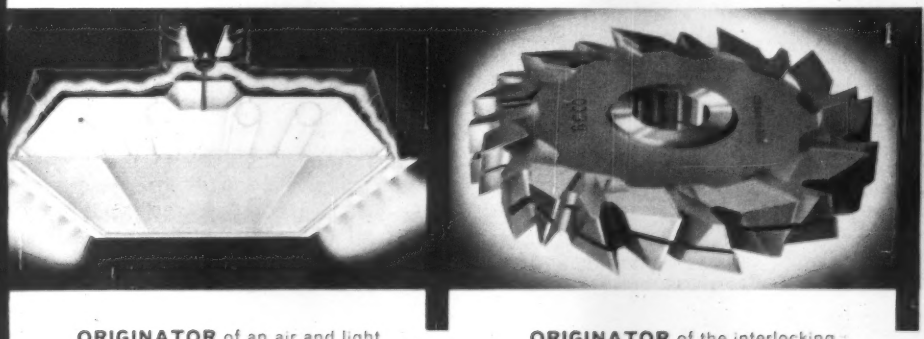
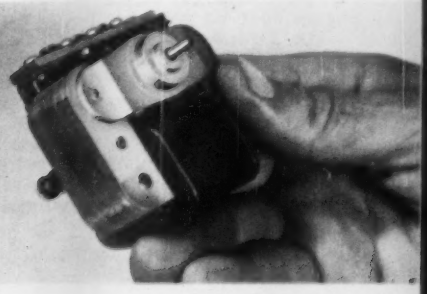


Originality at Barber-Colman

missile platform temperature held within few hundredths of 1°

Hidden within the intricacies of the mighty Titan's guidance platform is a component requiring its own complete precision temperature control system. And it had to be designed to fit within an extremely limited, irregularly shaped space. This system, developed by Barber-Colman engineers, incorporates a compact set of ingeniously formed control boxes with sensing element which controls internal temperatures to within a few hundredths of one degree. Thus, another critical tolerance and dimension challenge of the space age has been met. Example again of how Barber-Colman originality benefits the businesses it serves.





ORIGINATOR of an air and light diffuser which isolates the two for superior performance (co-operatively with Day-Brite Lighting, Inc.).

ORIGINATOR of the interlocking staggered-tooth milling cutter for deep slotting; adjustable in width to compensate for sharpening.

ORIGINATOR of reversible shaded pole motors, which make possible reliable, accurate control systems at low cost for many purposes.

BARBER-COLMAN...where originality works for you

Machine Tools and Cutting Tools / OVERdoors / Temperature Controls / Small Motors / Electrical Components
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Barber-Colman Company, 1300 Rock Street, Rockford, Illinois

BARBER COLMAN

Refrigerator assembly line.

How a Townsend Man In Your Plant Can Help Improve Your Competitive Position

Visualize the blue figure above as a Townsend man in your plant helping to improve your competitive position by applying the Townsend Method to your assembly lines.

Many a cost reducing idea has evolved from his study of assembly methods and introduction of the latest in special fasteners, parts and tooling. The Townsend man may even have a special part designed for you to eliminate two or three operations.

The result—an improved product—faster assembly—a bigger edge on your competition.

The Townsend Method can be adapted to any plant—large or small. This service can consist of an extensive study of all your assembly methods—it can be confined to one product—to one difficult operation.

In any event you will know in advance what your savings will amount to once the Townsend Method has been used in your plant. To get started on this phase of your cost reduction program write to F. R. Dickenson, President, Townsend Company, Beaver Falls, Pa. There is no obligation.

THE TOWNSEND METHOD

★ Investigate the present methods, special fasteners and small parts used in assembly of your products.

★ Evaluate your design in relation to assembly, unit costs and appearance.

★ Eliminate wasteful, time consuming, costly methods as well as expensive fasteners and parts.

★ Coordinate the design function with project engineering to assure most economical tooling and assembly.

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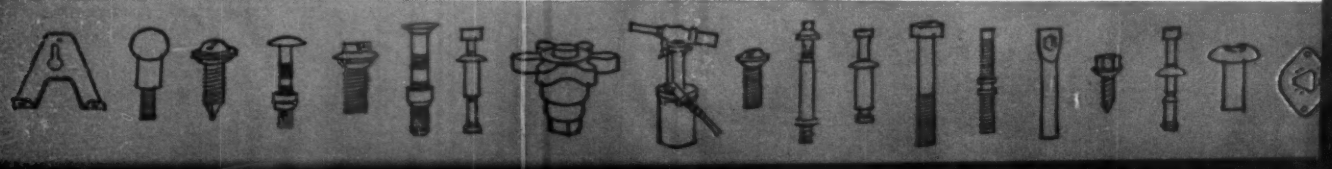


International Markets

ALEXANDER O. STANLEY

- *Boom in Western Europe creates manpower shortage, backlog of orders*
- *Economic gains show in Latin and South America, Africa, and the Middle East despite political turbulence*
- *Fast economic pace set by Japan, Australia, and Korea in the Far East*

WAVERING INDICES show up week after week on the U.S. business scene, but overseas, fat plus signs abound and booms and boomlets persist. What tensions there are stem from problems of progress, not poverty. The British worry about inflation as consumers gobble up goods. The West Germans keep hiking up the discount rate—now 5 per cent—and restrict the inflow of short-term funds, to keep zooming production from soaring clear out of the field of economic gravity.

The Italians are having a tough time keeping bank liquidity, as heavy industry and government commitments strain credit facilities. The Swiss are on a labor hunt all over Europe, eying our pool of skilled unemployed with envy. Stretching assembly lines have created manpower shortages not only for the Swiss but for other West European countries as well—and this at a time when we are worrying about the mounting tide of employables coming out of our schools.

To the south of us, the Argentinians are pushing ahead with their economic stabilization program. The Mexicans are no longer shoring up the peso—the flight of capital has been halted and new foreign and government investments abound. In Africa, light industry is moving into Nigeria, backed by risk capital from the U.S. and Europe. In Asia, the Japanese—despite political problems—continue to report industrial and international trade gains.

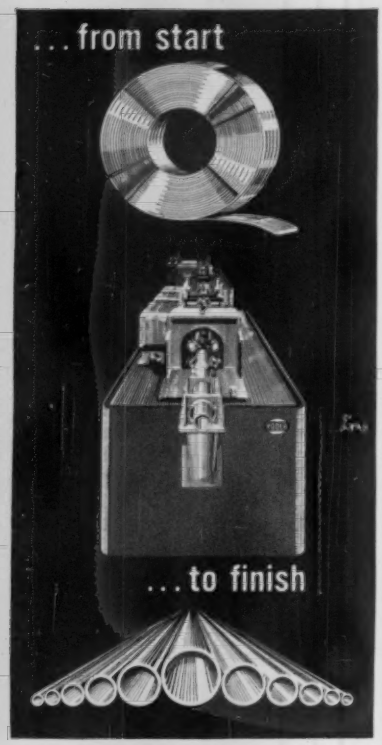
Here are quick sketches of the overseas patterns so far in 1960 (unless specifically stated, all comparisons are between the first quarters of 1960 and 1959):

● **France:** Exports hitting record high through deliveries abroad of automobiles, aircraft, electric locomotives, beverages, wood exports, iron and steel. Index of industrial production slips back to 178 from 1959 fourth-quarter high of 183 (1952=100), but this is termed a pause in expansion and not a decline-trend. Electric power and coal production hold to high levels; production of crude steel, pig iron, and automobiles hits new peaks. Purchasing power expands 2 per cent as a check in prices parallels a 1.5-per-cent hike in average hourly wages. The number of unemployment relief recipients declines.

● **Germany:** First-quarter imports at 10 billion marks, up almost 30 per cent, with biggest gains in raw materials and semi-finished goods. Exports swell to 11.4 billion marks for a 28 per cent gain. Quarterly machine tool production for overseas consumption rose 40 per cent to about two billion marks. Federal banks' total holdings of gold and foreign assets were 1.5 billion marks greater in April 1960 than at year-end 1959, up more than double September 1959 levels. The buying spree continues, factories operate at capacity (close to 200 U.S.-owned or -controlled plants are now running full blast in West Germany), and labor is in short supply. West Germany has loaned $240 million to the World Bank, biggest single flotation by the World Bank since 1947 when the U.S. absorbed $250 million in bond offerings.

● **United Kingdom:** Order books full, industrial output running high. With few exceptions, British factories face a problem of supply rather than demand in both capital and consumer goods. Up 10 points in the first quarter, the industrial index reached 120 (1954=100). To feed its factories, the U.K.'s imports have been increasing an average 20 per cent each month, but even this has not been enough to stem the pressure for more materials. Results: business and consumer credits tightened, net increases in profits taxes, higher interest rates on savings accounts, and higher ceilings on bonds and savings certificates.

● **Italy:** Industrial production up almost 16 per cent. Electricity and gas output, a sensitive index, shows a 14 per cent gain. New car registrations, up 33 per cent to 510,374 units at year-end 1959, reflect further rises, and Fiat plans to double its auto out-



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put by 1963. General imports are up 43 per cent, exports up 32 per cent. In export-import trade, over $1 of every $4 is generated within the Inner Six, less than $1 in every $5 in the Outer Seven. Domestic prices are relatively stable. Heavy demands from both private and government sectors have caused some reduction of banking liquidity.

• **Switzerland:** Industrial development and foreign trade expanding. Construction is unusually active. Prices remain stable, labor is tight. Imports are up 21 per cent, though exports are only up 14 per cent. A member of the Outer Seven, Switzerland does most of its international business with the Inner Six—here, it's market mores, not Common-Market bonds, that count.

• **Canada:** Topping new highs attained in 1959, exports up 23 per cent—but imports up only 8 per cent. After piercing through to a new record of 173 in January (1949=100), the production gage backed down 3 points because of the weakness in durables manufacturing, but shortly afterward rebounded as auto sales rose. Pulp and paper also produced large gains and now are expected to set a record year. 1960 forecasts are for a 6-per-cent build-up in the GNP, equaling last year's gains, a 5-per-cent gain in physical volume, compared with 3.5 per cent in 1959. Government authorities look for a switch from deficit spending to a balanced budget, which should help hold inflationary pressures in check.

• **Argentina:** A slight pickup in the opening months of 1960, after an 11-per-cent drop in the 1959 industrial rate of production. Textile and metal working industries are still depressed, but auto and truck production and consumer durables sales are reviving. With new pipelines added and distribution lines expanding, petroleum and natural gas output is climbing. Crude oil outflow is now up 20 per cent. Imports of crude petroleum and products have retreated 44.5, saving dollar and foreign exchange, which for the time being are in relatively ample supply. Dollar exchange remains steady at 83 pesos to the dollar. New investments totaling $71 million have been approved so far, with more to come.

• **Mexico:** Expansion in the iron and steel industry and the complex of metal working plants, continuing the gradual upswing of early this year. Construction also shows a pick-up, as do textiles and other hard-hit industries. Rumors of devaluation have dwindled to a whisper, and public confidence in the stability of the peso is high. There is an increase in gold and foreign exchange reserves, heavier government investment expenditures, a larger volume of private foreign investments. Commercial exports are languishing, but the invisible export—tourism—is on the rise.

• **Brazil:** No significant change in business patterns. Industry and commerce are reported operating at a good level despite tight credit. There is progress towards meeting the Administration's five-year "program of goals." Industrial production, employment, and agriculture show no serious problems, but the upward price trend, which had slowed down in the first five months, has begun to accelerate. Coffee exports, too, were disappointing through April, dropping off 12 per cent. With economic cross-currents at work, the attitude of business is one of guarded optimism.

• **Panama:** Exports still exceeding imports in value. Trade through the Free Zone of Colon is up 57 per cent. Good crops, new industrial elements, expanded banking operations, and the growth of savings brighten the economic picture.

• **Nigeria:** For the second consecutive year, new records for the cocoa crop—the export mainstay. The rise may offset thinning prices in world markets as cocoa exports continue to build up with a 10-per-cent, 13,000-long-ton improvement in the first four months. New industrial investments, either completed or on the drawing boards, include a U.S.-owned flour mill, a Swedish reconstituted milk factory, a British wire and rope plant, a Portuguese tin smelter, and oil exploration licenses involving thirteen offshore plots of 1,000 square miles each.

• **Liberia:** Brisk activity in all sectors of the economy. Exports and imports are up. Rubber production and iron ore output are high. Work is proceeding rapidly on Liberian roads, mining railroads, electric power and communication facilities.

• **Ghana:** Over-all trading conditions good. Both imports and exports, near-record last year, continue to swell, benefiting U.S. traders since restrictions on U.S. goods have now been virtually eliminated. Procedures to establish small businesses were sim-

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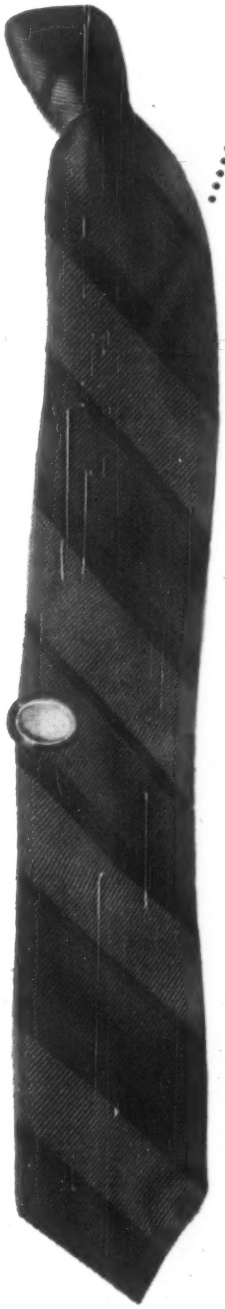

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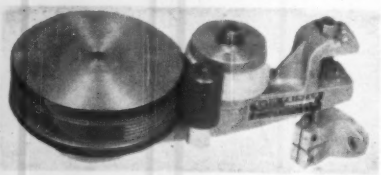

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plified, and consequently foreign trade missions, sales representatives, and foreign producers are descending on Ghana.

- **Israel:** Large gains in exports and a sharp rise in tourism. In January alone, tourist-produced income rose to more than $1 million, more than double the January 1959 figure. Production facilities, especially in textile and paper industries, are expanding—and they promise to grow even larger with the conclusion of cartel agreements in some important export industries.
- **Lebanon:** More boom, continuing from the fourth quarter of 1959. Although some businesses had a slight setback, the economy has almost completely recovered from the civil disturbance of two years ago. Many American firms continue to profit from Beirut's position as an international trade center; it has a well-equipped port, good transportation, insurance, banking, and storage facilities—and a minimum of government interference in private enterprise.
- **Japan:** Maintaining the fast pace set early in the year. Both imports and exports are reaching near-record levels. Four-months imports show gains of 36 per cent, exports of 21 per cent. Sustained high production in steel had outstripped all previous records by March. Other boom industries are machinery, textiles, chemicals, processed foods, and beverages. The Tokyo Stock Exchange shows a climb from the 1950 average of just below 90 to a 1,057 average at mid-year 1960 (and a May record high of 1,109).
- **Australia:** Increased demand, higher farm and factory production, tight labor supply, investment gains, greater export earnings. Retail price indices jumped to a 4-per-cent annual rate, double that of 1959. The Arbitration Court, however, turned down basic wage increases, and the government decided to cut import licensing drastically, so inflationary pressures have eased temporarily. First-quarter imports were up 43 per cent. Exports, mostly agricultural, are running about 20 per cent ahead.
- **Korea:** First-quarter exports up 30 per cent. Industrial activity, construction, and commercial freight car loadings are also rising. Commodity prices have hit an all-time high under the spur of inflation and a 30-per-cent devaluation of the hwan. END

Capital Views & Previews

PAUL WOOTON

Young but experienced, a new man takes over at the FCC

WHEN the Federal Radio Commission was first set up, Herbert Hoover was Secretary of Commerce. It was his responsibility to nominate commissioners to administer the newly approved Act. The art of radio was new, and Hoover was having difficulty finding people qualified to serve on the commission. He mentioned the fact to this writer.

It happened that I was acquainted with O. H. Caldwell, who had helped De Forest develop the vacuum tube. After some investigation, Hoover sent in Caldwell's name for nomination, and Caldwell became the first chairman of the Radio Commission, which set up the 64 cleared channels that put a foundation under the infant industry destined to become a great medium of mass communications and entertainment.

Although television was then in the laboratory stage, that first Radio Commission recognized its potentialities and began a study of how its operation should be administered. In 1934, when it had become commercially feasible, the comprehensive Federal Communications Act was passed and approved.

At that time there were fewer than 19,000 broadcast receivers. Today there are more than 200 million, three-fourths of which are radios, one-fourth TV sets. We have 5,000 broadcasting stations—3,500 of them AM radio, 860 FM. And there are 570 television stations throughout the United States.

Freedom of the air

The freedoms granted the press under the Constitution have been extended to this new mode of distributing news and opinion. Yet because the means of disseminating information by air is limited, broadcasting stations, unlike newspapers and magazines, must be licensed, and the Federal Communications Commission holds a power wielded by few Government agencies.

FCC Chairman Frederick W. Ford

Frederick W. Ford became chairman of the commission in March of this year. Perhaps no head of a regulatory agency was chosen more cautiously. Charges of irregularities on the FCC had created a situation that called for the most careful screening before another appointment was made. Of all those considered, a relatively young man of 51 best measured up to the strict requirements.

Ford has risen through the ranks of the commission's own legal division, distinguishing himself as an FCC trial lawyer. As such, he attracted the attention of the Department of Justice. He was acting as assistant attor-

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by the Davey Business Adviser

There are good reasons why more and more businessmen are taking a hard-boiled, second look at one of nature's most sentimentally appreciated creations—the gracious, noble tree.

Enlightened management has learned that trees do much to give employees a feeling management is interested in having surroundings employees can be proud of. To stockholders, trees often imply management is up-to-date in its human relations. Community response to plant landscaping is always favorable, because trees are the common denominator that harmonizes industrial buildings with residential surroundings.

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ney general, in fact, when he was confirmed as an FCC commissioner.

Before joining the Air Force during the war, Ford had also served with the Federal Security Agency and the Office of Price Administration. His varied and outstanding record weighed heavily in his favor when he was suggested for the top FCC job.

The Commission now has the authority to deny renewal of licenses when there is failure to operate in the public interest. Ford admits that need exists for greater licensee responsibility. He points out that the industry acted promptly and effectively in handling deceptive quiz show practices and in tightening internal controls over such matters as payola. Yet he feels that such malfeasance does require statutory penalties.

Ford believes, however, that the radio and television industry is perfectly capable of exercising self-discipline. He is convinced that the least possible regulation by Government is the best regulation. He has been a consistent advocate of relieving the FCC of cumbersome duties and has no desire to make a police court out of the commission. The FCC, he notes, does not need such procedures to enforce the regulations.

"Policing" by protest

Ford also wants no part in determining programs. He is convinced that "neither the commission nor Congress nor the public wants Government to dictate what should or should not be broadcast." The industry, he thinks, will be guided by the protests that go up when poor judgment in program selection is used. One example he cites is the outcry against excessive shooting and other violence on TV.

Two of the obligations a licensee assumes are to promote education and culture and to encourage religious bodies to contribute material. Stations must also be factual and fair in the handling of news, public events, and controversial issues. Ford is sure that results can be achieved—are, in fact, being achieved—by voluntary adherence to the code which the broadcasters have set up.

"Imposition of restrictive measures," he declares, "can only result in destroying originality and initiative. There are certain matters, however, that cannot be sidetracked. These will require thought, perseverance, and considered judgment." END

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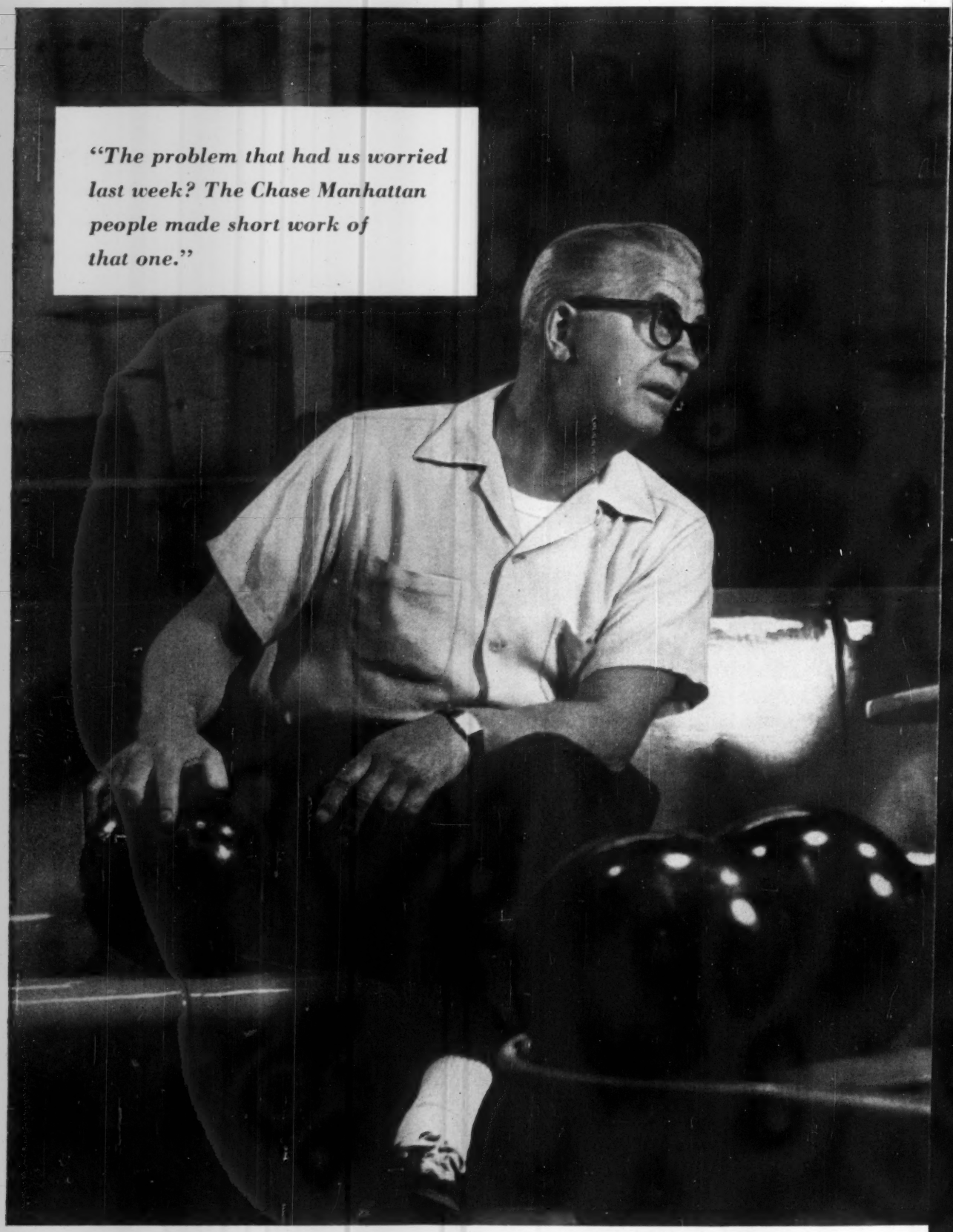
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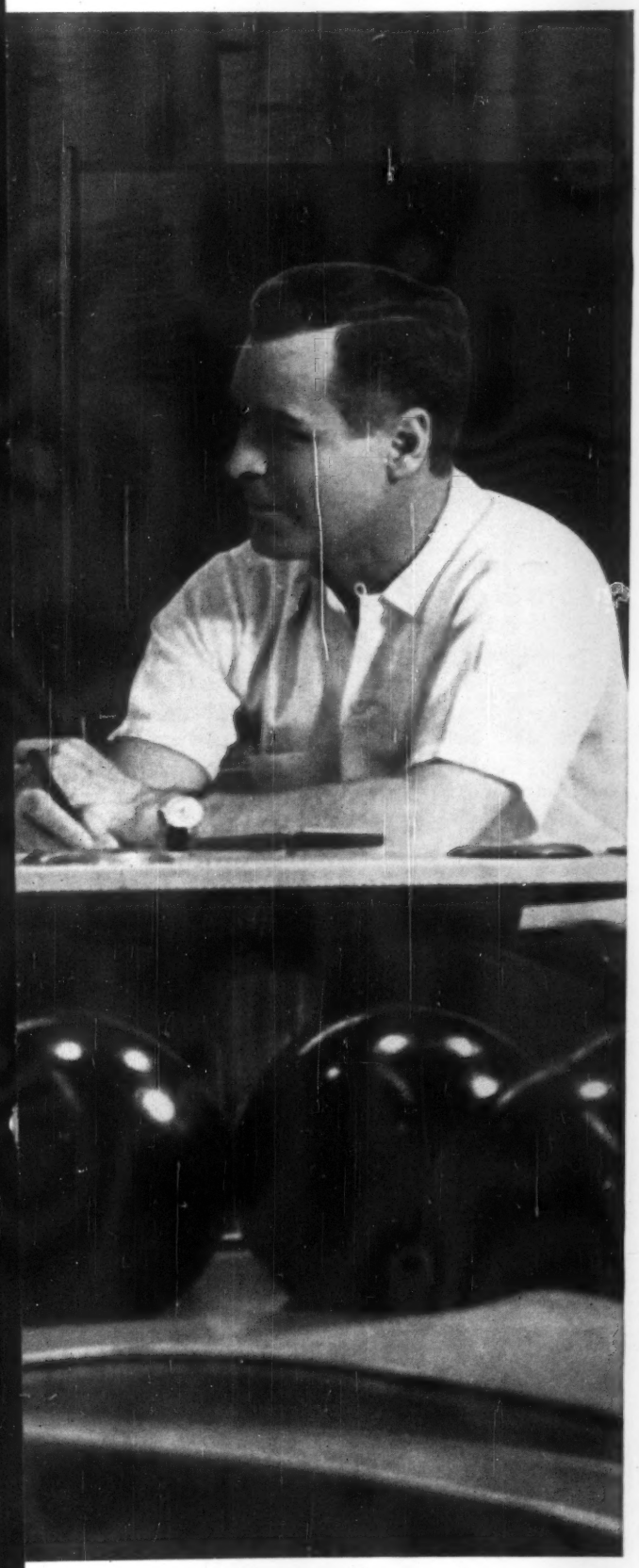

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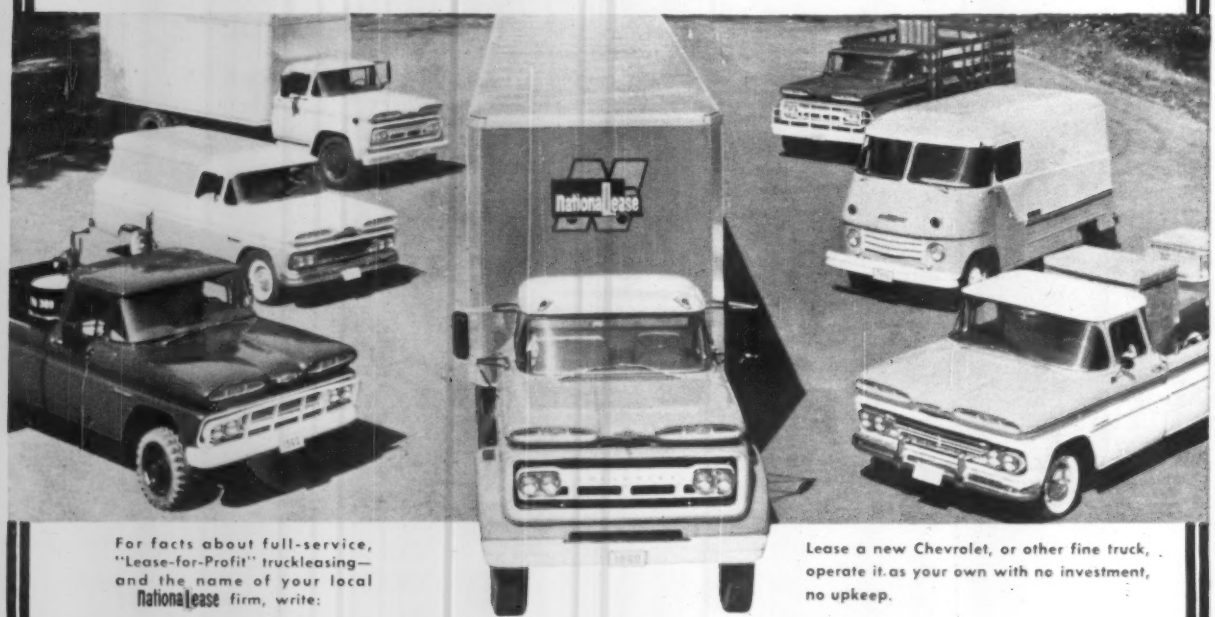

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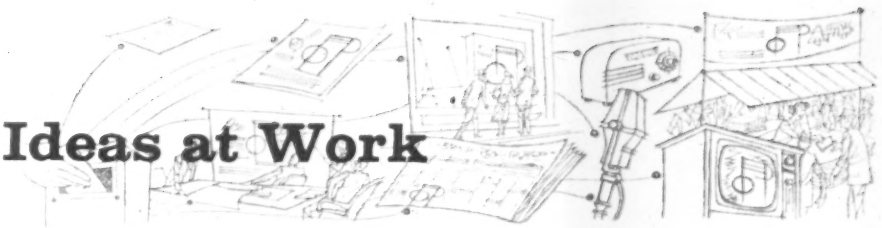

Ideas at Work

Profitable Ideas from Customers

CUSTOMER ADVISORY PANEL: *Top management of leading customers meet periodically with executives of International Minerals & Chemical Corp. so that each can share ideas with the other on ways of improving business.*

Supplier and customer are telling each other how to "build a better mousetrap" through the Customer Advisory Panel of International Minerals & Chemical Corp.

In an industry where customer service has become more and more important, IMC early in 1959 decided to ask customers for suggestions.

A miner, processor, and manufacturer of chemical fertilizer ingredients, the company sells various forms of phosphate and potash to manufacturers of mixed fertilizers. When it launched its new program, it asked the top management of twelve major customers to serve on the Customer Advisory Panel, which meets twice a year. One of the Panel's first suggestions was that IMC consolidate its independent phosphate and potash divisions into a single Agricultural Chemicals Division so salesmen could be fully trained to give manufacturers advice on the five different forms of products.

The Panel also suggested IMC sales experts hold "training clinics" for customers' salesmen. The two clinics already held in ten different cities were so successful that IMC this year sponsored a seminar for customer top managements on "Managing for Profit." Executives of 55 different companies attended the three-day session at IMC headquarters.

The Panel, says company president T. M. Ware, has "opened communications between us and our customers. Through its suggestions, it has improved all our operations and has resulted in benefits to us all."

Idea Exchange

A new twist to an old idea has cinched many a sale. Now Manpower, Inc., is offering its more than 200 salesmen new twists to new ideas in a loose-leaf booklet. Each page tells briefly of some new idea or approach a salesman has used, and gives specific suggestions based on this approach that other salesmen can adopt.

Manpower has 225 branch offices around the world, and last year employed 122,000 different persons to perform part-time or temporary work for some 65,700 customers. Because the organization is so spread out, communications always are a problem. The company first tried a salesman "idea exchange" that put five or six suggestions on a regular 8½ x 11-inch page. Salesmen were interested but seldom submitted ideas and were too busy to study the suggestions.

Three months ago, Manpower decided to print each suggestion on a single, half-size sheet of paper with a routing box in the upper corner, a brief paragraph outlining the original sales approach, and a list of possible applications for other salesmen. The sheets, in a fold-over cover, are mailed monthly to each salesman.

The company found that putting each idea on a single page encouraged salesmen to pull out the ones they could use. The list of suggestions below each idea also prompted them to try out the new approaches without delay.

Also included in the cover are a few blank pages with a heading routing them to the "sales tips editor." Within a week after the third monthly "Idea Exchange" booklet was mailed out recently, salesmen who in the past had ignored the request for new ideas were submitting their suggestions on the special blanks.

continued on page 142

- *Suggestions spark sales*
- *Check-free payroll*

NOW--
Seal Cans in a Jiffy
WITH POST OFFICE APPROVED
FREUND TRIPLE-GRIP CAN CLIPS

1 Hook clip under the rim of the can...and press into lid groove with fingers.

2 Straddle the clip with the applicator and hook rim grip under rim of can.

3 Move the applicator upward pressing the clip firmly into the lid groove of can.

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Find out how Nordson Hot Airless can pay off for you, in savings and in improved quality. Write today!

NORDSON CORPORATION
29 Jackson St., Amherst, Ohio

continued from page 141

No-Check Payroll

A Wichita Kans., bank has recently doubled the rate of checking account openings by providing a new service to manufacturing, construction, public service, and broadcasting companies.

Eight months ago, when Wichita's Union National Bank put its own payroll on IBM data processing equipment, Richard W. Bruner, vice-president and cashier, realized the potentialities the new system offered in the way of customer service.

Today, Union National pays employees and keeps payroll accounts for more than 15 companies under its "No-Check Payroll Plan." It has had to put off accepting new customers until it has more data processing men trained.

The bank offers three basic plans, giving various degrees of service. More than 90 per cent of its customers use Plan III, which provides complete payroll accounting and information breakdowns as well as making actual payments to their employees. Under Plan III, the customer company permits the bank to open individual checking accounts for each employee, who also must give his consent. Each account is entitled to two free entries: The employee is not charged for the deposit—his pay—nor is he charged for the first withdrawal. He is thus perfectly free to deposit his salary in another bank, but in practice few employees of customer companies have done so.

The customer company gives the bank necessary information about each employee—name, address, dependents and the like—plus time-card information. Using data processing equipment, the bank computes the payroll, produces "notices of credit" for employees, and gives the company a printed payroll journal, various totals, and other necessary payroll accounting information. Bank charges are $12 per 100 employees per pay period, and Bradford Hall, assistant vice-president, says the bank can prove cost savings—as well as faster, more complete information—for any company with more than 25 employees.

Among the local companies using the plan, or in the process of adopting it, are a construction company, a large retailer, a manufacturing company, and a broadcaster. —J.R.M.

information about

Denver

for industrial site seekers

Gateway to the West, Denver is an ideal location for manufacturing and warehousing operations. Proof of Denver's ability to attract is a phenomenal 51.1% population increase in ten years within the Denver Metropolitan Area.

There are two major reasons for this tremendous expansion: (1) recreation facilities—a big factor in industrial development today—are outstanding, making Denver one of the nation's most delightful communities for living, and (2) unusually broad industrial diversification makes Denver less subject to economic upheavals than the average city.

The Rock Island has many choice industrial sites available in the Denver area. If the following information about Denver interests you, get in touch with us for more specific details. We'll work with you in strictest confidence.

LABOR: Skilled stable labor force of 346,700 in the Denver Metropolitan Area; increase of employment of 57% in ten years; median education 12.0 years.

POWER: Five generating stations with a gross capability of 745,000 KW with a planned five year expansion of 344,000 KW; 429,000 MCF peak day capacity of natural gas; plentiful supply of fuel oil.

TRANSPORTATION: The Rock Island and 5 other railroads; 7 airlines; 146 interstate and intrastate truck lines; 6 intercity bus lines.

HOUSING: 88,438 new housing permits in ten years ('50-'59); average property value is $17,000. Six urban renewal projects in action and planning stages for which funds from the capital improvements program have been allocated.

THE COMMUNITY: 108 elementary and high schools with a total enrollment of 86,951 and a pupil-teacher ratio of 27.2 to 1; private and parochial school enrollment of 20,000; 99 parks within the city limits with a total of 2,382 acres; 20,000 acres of mountain parks nearby; 32 hospitals served by approximately 1,250 doctors; exceptionally fine recreational and cultural facilities; ample water supply for recreation, consumption and industry.

COMMERCIAL SERVICES: 1,289 S.I.C. classifications, representing 13,203 firms; strong diversification of industry makes Denver exceptionally free from the effects of economic fluctuations.

CLIMATE: Mean temperature in summer, 70.2°; in winter, 30.8°; average annual rainfall 14.20".

The man who knows Denver industrial sites like the back of his hand is Milton H. Booth, Assistant Traffic Manager. Mr. Booth and his staff are typical of Rock Island specialized personnel who, during the past three years, have helped locate over a billion dollars of private industry along Rock Island tracks. He can help you find just the spot you need. For full details write, wire, or phone Milton H. Booth, Room 310, Midland Federal Savings and Loan Building, Denver 2, or Industrial Department 153, Rock Island Lines, Chicago 5.

Rock Island

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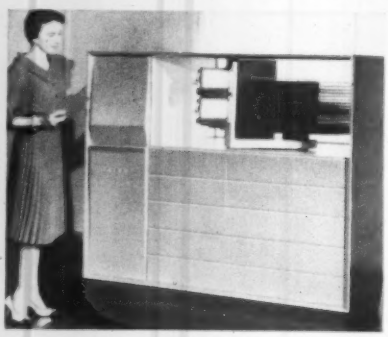
MOTION PICTURES
SLIDEFILMS

New Product Parade

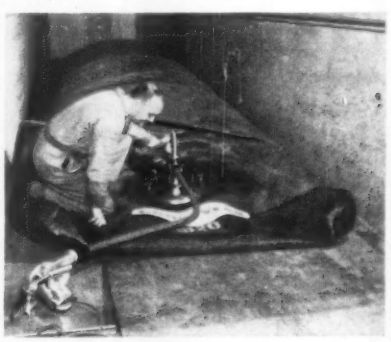
EDP VIA PHONE: Computers can now exchange information over the telephone while printing calculation results. A data transmission unit linking computers through telephone lines automatically corrects errors in reading, writing, or transmission. *"IBM 1009," International Business Machines Corp., 112 East Post Road, White Plains, N.Y.*

CONVEYORS: New "V"-belt, space-saving document conveyors are said to speed office paperwork routing up to 100 per cent by eliminating bottlenecks, errors, and confusion. Several 3-inch channels can be installed side by side, carrying documents upright and in opposite directions. *A. J. Bayer Company, 2300 E. Slanson Ave., Los Angeles 58.*



SPEEDY MEMORY: This juke-box-like electronic memory unit is said to locate information in 150/thousandths of a second at far less cost than comparable devices. Its read-record heads scan memory discs which resemble phonograph records and can hold almost 90 million characters. *"Telex Disc Files," Telex Park, St. Paul 1, Minn.*

WET OR DRY RUNS: New lightweight, rubberized containers convert dry freight vehicles into liquid carriers in 15 minutes. The collapsible tanks were developed to permit haulers to pick up liquid cargo on ordinarily empty return runs. *"Van Tanks," Industrial Products Division, the Goodyear Tire & Rubber Company, Akron, O.*

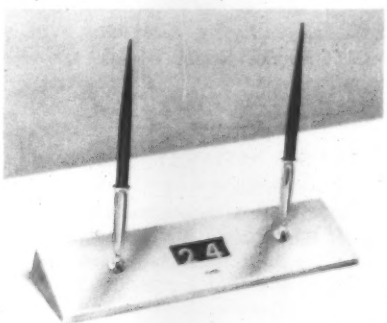


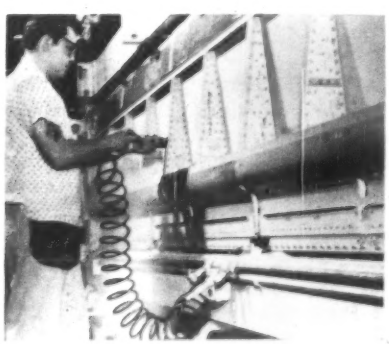
» **THIS MONTH:** *Devices to improve office procedures; expanding truck versatility; feeding metered data directly into accounting.*

QUIET CABINET: Four different insulating materials in this cabinet help cut office machine noise 60 per cent, reducing operator fatigue and errors. The cover permits convenient placement of machinery. This model fits snugly over IBM Keypunch and document writers, and has a recessed Plexiglas front. *"Model 100KP," International Sound Control, Chicago.*

PORTABLE P.A.: This transistorized public address system operates on flashlight batteries. The 18-pound unit projects a speaker's voice to audiences of up to 2,000 people at distances up to a quarter of a mile. With accessory mixes, the system will operate as many as 10 microphones. $199.50. *"Redcap," Antrex Corp., Chicago.*

COUNT OFF: This new signaling device helps control flow by keeping track of personnel groups, such as stenographic pools, as well as signaling individuals. Small enough to mount in a desk top pen stand, the annunciator indicates up to 100 numbered signals. *"Telescreen," Auth Electric Company, Inc., Long Island City, New York.*

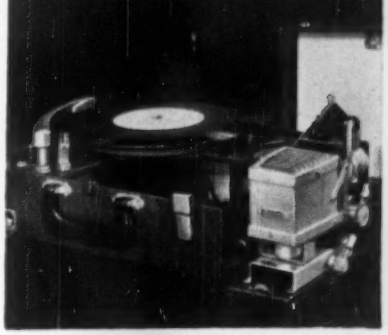




COILED AIR HOSE: This nylon hose for air tools stretches and recoils with the worker's movements, keeping itself neatly out of the way, according to the manufacturer. Quick-disconnect fittings on standard 25-foot lengths make it possible to carry the hose easily from job to job. *"Nycoil," The Nycoil Company, Westfield 5, N.J.*

more news on next page

new McClure PICTUREPHONE PORTABLE SOUND SLIDEFILM PROJECTOR



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Reading Lines

READING RAILROAD
INDUSTRIAL DEVELOPMENT DEPARTMENT

continued from page 145

SHRINK-FITTING: A new polyolefin tubing material shrinks to a tight fit over irregular shapes when heat is applied. The 275°F necessary to shrink the material can be applied with hot air guns, hot liquids, ovens, or radiant heat. The flexible dielectric tubing is resistant to most chemicals, and won't melt, harden, crack, or blister within a temperature range of —67°F to 275 F. *"Hyshrink," Dept. EFL, Anaconda Wire and Cable Company, 25 Broadway, New York 4.*

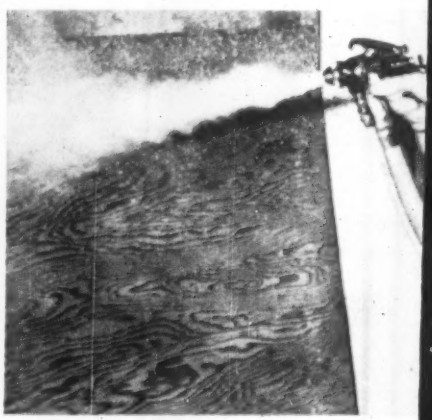
METERED SELF-SERVICE: A new metering device permits truck drivers to load their own fuel or liquid cargoes while withdrawal data is fed directly into any type of accounting system. A key turned in an assigned slot activates a pump and the meter, which also prints a record of the withdrawal for the driver to take with him. *"Granco Accounta/Key System," Granberg Corp., 1308 67th Street, Oakland, Calif.*

MOTOR PROTECTION: A new miniature circuit breaker protects portable tools from burning out. The device attaches to the power supply line, and automatically cuts off power when the tool is overloaded or overworked. A simple reset button readies the cooled tool for use. *"Motor Protector," Modern Manufacturing Company, Inc., 680 Davisville Road, Willow Grove, Pa.*

STRUCTURE ASSEMBLY: A new universal assembly system is said to permit construction of an unlimited variety of structures, such as exhibits, apparatus supports, and room dividers. The basic unit is a grooved "hub" with a centered core. The core locks on a vertical support rod, and the horizontal outer groove holds ¼-inch threaded materials or building sheets at any angle in a 360° radius. *"Octopus," Octopus Products, 156 Fifth Ave., New York.*

LOW COST FACE PROTECTION: All parts on this face shield are replaceable, permitting the interchange of a large variety of windows or screens. The lightweight (3¼-ounce) mask is priced at $2, and less in quantity. *"Feather-lite F-90," Fibre-Metal Products Company, 5th and Tilghman Streets, Chester, Pa.*

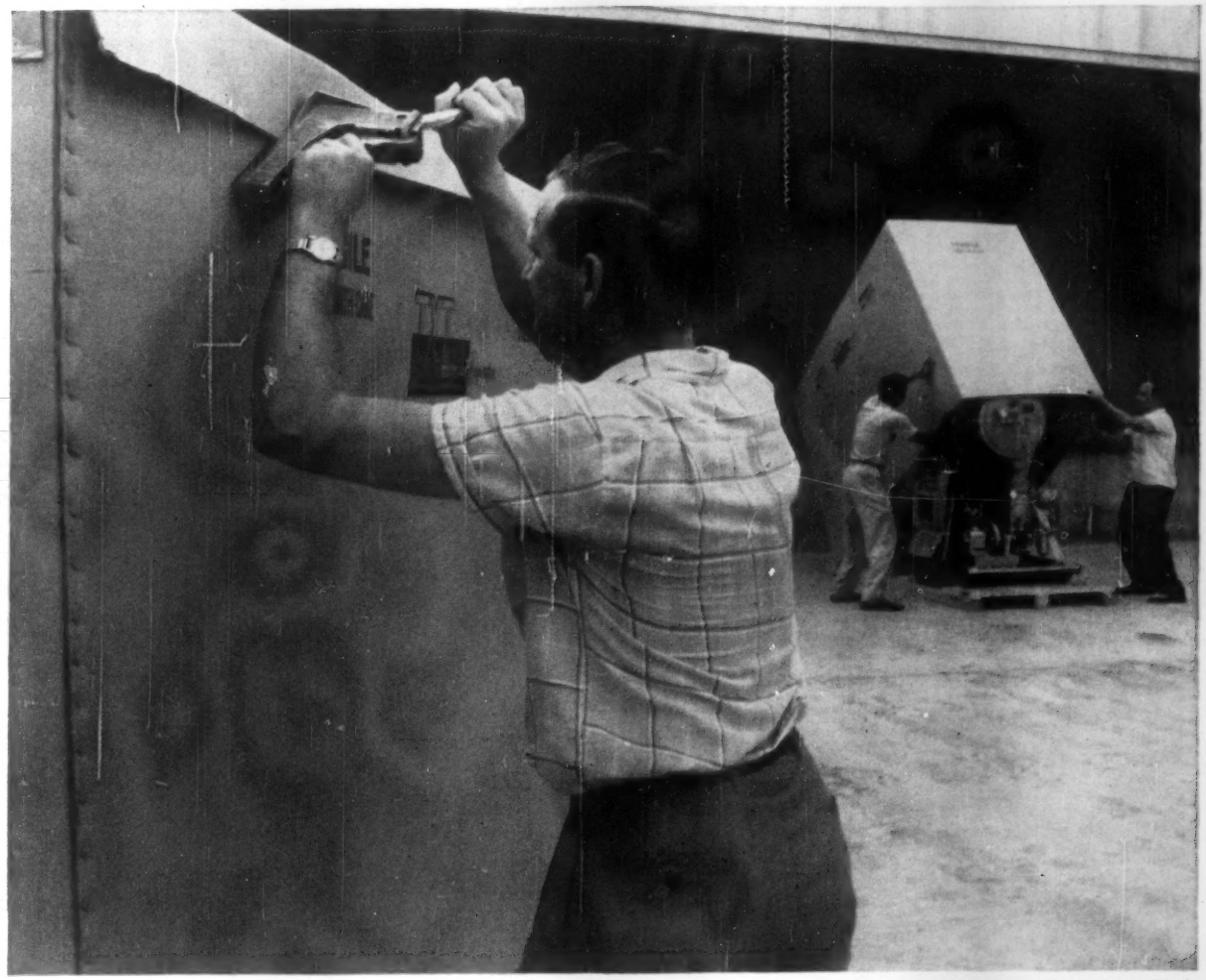
SPRAYING FIBERGLAS: A new spray-on coating with flaked Fiberglas provides surface protection for metals, wood, and concrete. The use of Fiberglas flakes is said to minimize shrinkage, crawling and sagging, and increase impact resistance. The material



is suitable for coating objects such as storage tanks, chemical lines, concrete construction, and freight carriers. *"Fiberglas Flake Protective Coating," Owens-Corning Fiberglas Corp., 717 Fifth Ave., New York 22.*

TRAVELING TAPE: A new portable tape recorder operates on 28-volt DC, or 115-volt AC current, and is designed to work under a wide range of conditions. It will accept either ½-inch or 1-inch tape for seven or fourteen recording channels, and provides six speeds: 1⅞, 3¾, 7½, 15, 30, and 60 ips. *"CP-100," Ampex Data Products Company, Dept. 511-1, 934 Charter Street, Redwood City, Calif.*

SAY WHEN: A new lift truck lifts and rotates drums 360°, making it suitable for pouring as well as stacking. For safety, the tilting-pouring operation is controlled from the ground. The tilting mechanism is interchangeable with lifting forks to increase the truck's versatility. *"Drum Tilter," Big Joe Manufacturing Company, Wisconsin Dells, Wisconsin.* —E.G.



Container manufactured by Owens-Illinois

For ton-and-a-half oil heaters—

Giant Bostitch-stapled carton slashes packing costs 50%

Texsteam Corporation, Houston, Texas, used to ship 3000-pound oil heaters in wood crates. Each crate was built around a heater and was the size of a small room . . . seven feet long, seven feet high and three feet wide. Crates were costly to make and to ship. They were heavy, time-consuming to build and hard to handle. Here's how Bostitch helped.

An unusual—and unusually large—corrugated container proved to be ideal. It's a sleeve with a Bostitch-stapled seam. A cap, stapled in place, forms the top. The burner is bolted on a wood pallet, then sleeve and cap go over the burner. A heater can be packed in a fraction of the time.

Texsteam reports savings of 50% for the new container over the old. The new carton weighs less and has cut freight costs substantially. Shipments have been completely damage-free.

Texsteam gained many advantages and worthwhile savings in the change to Bostitch-stapled containers. Many companies do. If you would like to know how a change might benefit you, talk to a Bostitch Economy man. To call him, look under "Bostitch" in your phone book. Or write us direct. See how much you can save when you use Bostitch in your shipping room.

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the right combination for your needs from 800 staplers and over 200 staples . . . nation-wide parts, service and technical aid backed by the industry's most modern factory . . . assurance that Bostitch products will operate to your complete satisfaction.

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Creative Mr. Frost's success with Heller financing may suggest a profitable move for you

From the first day Charles Frost, New York industrialist, pushed open our front door, he recognized and took advantage of the financial services of Walter E. Heller & Company. Frost's wonderful talent for revitalizing a company—shifting management, instituting new marketing techniques, rearranging product lines, fully utilizing the credit available to him—has allowed him to operate in a wide industrial sphere with great success.

The acquisition of the National Pneumatic Company in Boston came in February of 1944. The company specializes in pneumatic doors and controls, and in intricate dialing and transmission systems for the communication industry.

Then in May of 1944, Mr. Frost acquired, again through the services of Heller, the Redmond Company of Owosso, Michigan. He built the company into an outstanding manufacturer of fractional horsepower motors, and later sold Redmond to the Controls Corporation of America. Acquisition of Bright Star Industries, battery and flashlight manufacturer in Clifton, New Jersey, in January 1955, was also made possible through Heller financing. This still remains in the Frost group, having grown to become a well-regarded competitor in its own field.

In April of 1958, National Pneumatic added to its family the Connecticut Telephone & Electric Corporation, manufacturing electronic equipment for Government and industry.

Each of these operations required not only initial financing but continuing financing from the day the first loan was made—part conventional, part not—as the companies expanded and changed their character.

Heller was able to satisfy these companies' financing requirements by having a flexible financing attitude, adjusted and tailored to each one's needs. Throughout the relationship, Mr. Frost has used practically all of the business financing services offered by Heller.

The cooperation and guidance that was available to Mr. Frost forms an integral part of Heller financial services, and can be as important as the funds placed at a client's disposal—perhaps even more so.

Should your firm be doing a quarter of a million dollars worth of business—or even twenty or thirty million dollars or more—let us send you our new booklet, "Financing Business Action," which outlines Heller financing. This concise booklet may well suggest a method by which you, too, can benefit through Heller services. Write Dept. DR-9.

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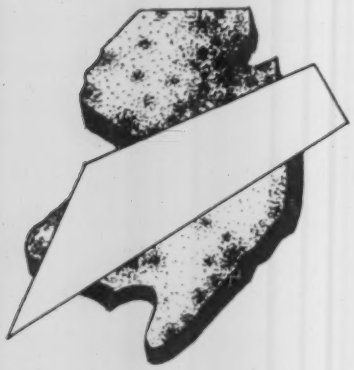
What.....
great open spaces



in the most densely populated State?

That's right ... New Jersey leads the nation with 800.2 persons per square mile. Naturally so because of the State's "corridor" position in the great Eastern markets. But New Jersey SOUTHERN is something else. Here, still in the heart of the world's richest market, are broad farm lands, green pastures, wide forests, mighty beaches ... 3000 square miles of opportunity. In the "Southern Six" counties of New Jersey, population is only 402.7 persons per square mile. And in one of these southern counties only 171 per square mile.

Dozens of blue chip companies have "discovered" this nearby frontier. Many have already located important factories, laboratories, division offices, warehouses here. They like the practically unlimited water supply, abundance of home-town labor, elbow-room, etc.

Our professional staff will be glad to assist you in an individually tailored study of the area—no charge, no obligation, no leaks.

SOUTHERN NEW JERSEY DEVELOPMENT COUNCIL
Suite 502

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G. Raymond Wood, Director

The Reviewing Stand

Wrapping It Up

Packaging has become both an art and science in our day. Designer, engineer, and marketer have pooled their vision, materials, and know-how to make the jacket of any product worthy of the contents.

The general store of past generations had open bins of coffee, tea, dried fruits, bolts of cloths, tubs of butter—in fact, except for canned goods, most items of food and clothing were packaged by the storekeeper himself. Now the container can be made of any one of a vast range of materials depending on the need, the climate, the risk in transport, and the opportunity for display.

Hard goods, soft goods, edibles, wearables, and durables can all boast a suitable cover designed at the product's inception, and ready for use when it comes off the production line.

Art increases the sales incentive for goods that lure the eye of the optional spender. Science makes certain there is no waste space in the carton that protects the product, saving shipping costs as well. All these facets will be discussed in authoritative detail in our November Special Report on Packaging prepared under the editorial supervision of Industrial Editor Melvin Mandell.

Promise Put to the Test

Our June editorial, "A Matter of Degrees," which protested over-reliance on the academic degree in hiring, drew several favorable comments and a few brickbats. It appears to have reopened the whole question of the proper "calipers of quality" in judging men by their scholastic attainments—a question to which there is no single right answer.

For instance, General Douglas MacArthur led his class at West Point in 1903 with the best point score in the history of the Academy, and his battle record rates with those of the military geniuses of history. In 1861, General George Custer finished last in a class of 340. Later he lost his life and last battle to a shrewd Indian medicine man, Sitting Bull, who didn't rate a chieftain's feathers. But Ulysses S. Grant finished 21st among 39 graduates in 1843, and Robert E. Lee, the brilliant strategist, was second among 46 in the class of 1829. Pershing was 30th out of 77 in 1886, and in 1915 Eisenhower was 61st out of 164 graduates.

Fair-to-middling scholastic ratings are evidently no bar to later military attainments that history records as, even, inspired. The human equation is still more important than any statistical equation in measuring long-term values or qualities of human judgment.

Lesson in Helmsmanship

When the editor was a boy of five, his life's ambition to be a locomotive engineer was dimmed by the dismaying revelation that it was the flanges on the wheels, not the skill of the man at the throttle, that kept the engine on the tracks.

Then, a few years later, he was at the wheel of a tramp steamer on the Gulf of Mexico. It was a thrill for a youngster but the responsibility lasted only a few minutes. The worried skipper, observing the steamer's serpentine wake, decided that the helmsman was wasting too much fuel oil and mileage. "Too tight a hand on the wheel," said the man with the braid on his cap.

Steering a steady course calls for a strong but not necessarily a rigid hand. The sure touch at the helm follows the compass as it swings in the gimbals, and leaves a straight wake back of the ship. Good management, too, always shows the power of a sure hand at the controls. The certainty with which a course is followed has a deceptive ease to the eye of the amateur, who is prone to fight the wheel instead of holding the compass steady.

—A.M.S.

DATA·phone

A NEW TELEPHONE SERVICE FOR THE NEW ELECTRONIC ERA

Bell System's Data-Phone service enables modern business machines to "talk" to each other over regular telephone lines

MORE and more businesses are using complex computers and other electronic machines to process current facts and figures.

Where plants, warehouses, branches or offices are located in different cities and states, there is increasing need for a quick, economical way to transmit payroll, inventory, billing and other data from place to place.

This is especially true where the policy is toward decentralization of various activities.

In serving this communication need, the Bell System has come up with a new and extremely flexible method called DATA-PHONE service.

The great advantage is that business data goes over the same telephone lines you use for telephone conversations.

The new service uses Data-Phone sets to link customers' business machines—handling paper tape, magnetic tape or punched cards—to regular telephone lines. This machine-furnished data can be handled over telephone lines at speeds up to 1200 *bits* per second.

The customer pays for each Data-Phone call just like a Long Distance call for any period he wants.

THUS, in addition to our teletypewriter service, designed for low-speed operations, and our leased-line offerings allowing literally any speeds, we can now offer the added flexibility of our vast Long Distance telephone network for data transmission.

In providing the communication lines and Data-Phones, the Bell System is working right along with manufacturers who are developing the business machines to complete the service.

It all adds up to an interesting and exciting opportunity to render a new data communications service for our business customers.

A GREAT FUTURE

It is not improbable, within the next decade, that the amount of communication between electronic business machines in different cities will be as large as telephone communication between people.

BELL TELEPHONE SYSTEM

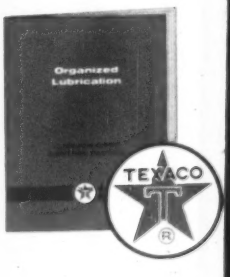
Texaco's new "Stop Loss" program shows why lubrication is a management responsibility

MANAGEMENT *does* have a stake in good lubrication practices. Texaco's complete new program "Stop Loss with Organized Lubrication" shows why.

This program has proved its ability to make important savings, and is adaptable to virtually every industry. It is dramatized in a 20-minute, color-and-sound movie that every management man should see.

When you recognize lubrication for what it is—a cost-reducing tool, not an expense item—you can effect savings that add up to many hundred times the cost of the lubricants themselves. Yet *only management has the authority to make these potential savings an actuality.*

Texaco can help you achieve these savings. If you are interested in seeing our film "Stop Loss," call your local Texaco Lubrication Engineer, or write Texaco, Inc., 135 East 42nd Street, New York 17, N. Y. Dept. D-141



LUBRICATION IS A MAJOR FACTOR IN COST CONTROL